# **International Conference on Sustainable Waste Management** towards Circular Economy

December 02 – 07, 2020, Jadavpur University, Kolkata, India

International Society of Waste Management, Air and Water (ISWMAW)

Centre for Sustainable Development and Resource Efficiency Management, Jadavpur University, India Centre for Sustainable Technology, Indian Institute of Science, India

**Principal Organisers** 







**Sponsors:** 







### **Organising Partners:**





















































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How to join: NO SEPARATE LINK IS NECESSARY TO JOIN THE CONFERENCE. PLEASE CLICK ON THE [Click to Join] given for each session on the schedule. This will allow joining respective the session in the hall. It will not allow you to click two sessions at a time from one device.

CONTACT: iswmaw@gmail.com; Website: www.iswmaw.com

THIS DOCUMENT IS FOR PRIVATE CIRCULATION ONLY TO THOSE WHO PAID FOR PARTICIPATION AND FOR THE GUESTS, SPEAKERS, AND CHAIRS. KINDLY DO NOT CIRCULATE TO ANYBODY IN GENERAL.

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Please note if there is any last minute change of your presentation time in exigency.

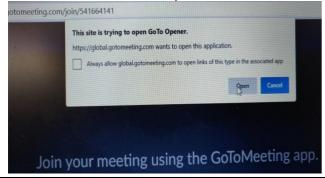
# Please Read Carefully: Guidelines for Chairs, Speakers and Participants to join & continue

You can join hall 1,2&3. Clicking [Click to Join] written beside respective hall as shown below, needs No link. peakers and Chairs: Kindly be present in the hall for the session 15 minutes earlier to the time of the session. If the speaker is not available the chairs and organisers will proceed to next speaker. Speaker, if cannot share the screen for presentation, our organisers will share the screen for your speech to avoid delay. Presentation time: Keynote: 15 minutes; Others: 10 mins

### HALL 1 [Click to join]

Figure 1: Once you [click to join], this prompt will come.

### Click- Open.



### HALL 2 [Click to join]

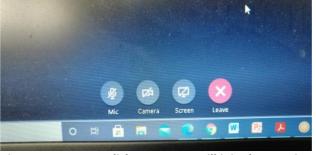


Figure 2: Once you click- open, you will join the meeting platform.

### HALL 3 [Click to join]

Four buttons at the bottom will appear. MIC, Camera and Screen buttons should by crossed always as shown unless you are requested to open.

If your click on Leave buttons, you can leave the meeting. You can join again by [click to join] on the schedule. If you have any problem in the meeting, you leave and join again in similar way. If you want to join another session, you have to leave from one session and can join other. Platform won't allow you to join two sessions at a time.

- 1. Chairs: You will be introduced by the Hall Managers to start the session. The organisers will invite the speakers one after another. QA will be conducted by you with the help of organisers. Questions will be taken from chat box written by the participating delegates. You are requested to rate the presentations for IconSWM-CE excellence Awards. You are requested to prepare the Chair's summary to present at the end of the session. You are requested to send the rating form filled in and the Chair's Summary to: <a href="mailto:iconswm.review@gmail.com">iconswm.review@gmail.com</a> after the session finished. At the end of the session, request all to click on the camera to take a photo. At the end, please mute the MIC so that organisers can start the next session.
- 2. Speakers: On your turn, click Mute button to speak. Please be ready with your ppt open on your laptop during the previous presentation. On your turn, open your ppt, click on Screen button at the bottom and share the ppt and make full screen mode. If you have any problem, request the organisers to share your ppt. keep always MIC button crossed to avoid any disturbances. Please send the ppt with file name, session number\_your presentation serial number in the session\_your name to <a href="mailto:iconswm.review@gmail.com">iconswm.review@gmail.com</a> by 30.11.2020. [e.g., SS1\_02\_ Ramona or, TS5\_01\_Kunal or, SS7\_01\_Kåre OR, TS15\_07\_Nilofar AND such.
- 3. Participants: Join, keep your microphone, camera and screen button crossed to avoid any disturbances.

### Summary of Schedule: 10th IconSWM-CE 2020, December 02 - 07, 2020 [Time given in IST]

| 2/1 | 2/2020: | Hall 1: Inaugural Ceremony: Delegates may enter the hall 1 FROM 10.20 Hrs (IST) onwards |
|-----|---------|---|
| 10  | .20     |   |

Prof. Dr. Sadhan Kumar Ghosh, Chairman, 10th IconSWM-CE & the President of ISWMAW, expresses his gratitude to all the speakers, chairs, sponsors, principal organizers, organizing partners, members in the committees, participants and their sponsoring organizations, hall management and the organizers for their support & participation in 10th IconSWM-CE 2020 making 240 presentations from 44 countries, UNCRD, UNIDO and UNEP with over 700 participating delegates in sessions under this stressed pandemic COVID-19 situation. Hope to present a meaningful event. Looking forward to see you in 11th IconSWM-CE 2021 for the benefit of the environment, mankind & living creatures.

|                      | 10 <sup>th</sup> IconSWM-CE 2020 will be participated by   | delegates and speakers from countries, namely   | , Bangladesh, Bhutan , Bolivia , Brazil, Chile, China,    |
|----------------------|--|---|---|
| <b>Participating</b> | Ethiopia, Egypt, France, Georgia, Germany, Hungary, India, Indonesia, Japan, Lebanon, Malaysia, Mexico, Morocco, Myanmar, Nepal,       |   |   |
| Countries            | Netherlands, Nigeria, Norway, Philippines, Portugal, Rowanda, Russia, Soudi Arabia, South Korea, South Sudan, Spain, Sweden, Tanzania, |   |   |
|                      | Thailand, Togo Republic, Turkey, Uganda, Uk  | K, Uruguay, UK, USA, Vietnam, Zambia, and U     | JN organizations: UNCRD, UNEP and UNIDO.                  |
| 2/12/2020            |  | Inaugural Ceremony                              |   |
| 10.50 - 12.20        |  | ·   |   |
|                      | HALL 1   | HALL 2  | HALL 3  |
| Hall                 | Hall Manager : Dr. Kaniska Sarkar, India   | Hall Manager: Dr. Aparup Konar, India and Dr.   | Hall Manager: Prof. Sudip K. Das, India and               |
| Management<br>Team   |  | Asit Aich,                                      | Dr. A. Mandal,  |
| Organizers           | Tejaswi Rana, Sourya Chakraborty, [Dr. Sutripta  | Jayeeta Banerje, Tanya Gupta, [Dr. Payel Ghosh, | Raktim Dasgupta; Krishanu Hait;                           |
| Organizers           | Sarkar, Sonali Roy Choudhury, (Remote)]  | Rahul Baidya, (Remote)]                         | Abesh Chatterjee; [Anaya Ghosh, Rajarshi Chakraborty,     |
|                      |  |   | (Remote)]   |
| 12.30 - 14.00        | HALL 1   | HALL 2  | HALL 3  |
| 2/12/2020            | Special Session - Philippines  | AD & Composting                                 | Circular Economy & Built Environment                      |
|                      | Special Session (SS1): Waste Management &  | Technical Session (TS)-1: (10 Presentations)    | Technical Session (TS)- 2: (8 Presentations)              |
|                      | Circular Economy in Philippines :(8 Presentations)   |   |   |
|                      | Chair : Prof. Albert N. Naperi, Philippines  | Chairs: Prof. M. Nelles, Germany                | Chairs: Mr. C R C Mohanty, Japan; Mr. M Rao Divi, India   |
| 14.00 – 14.30        | Recess   | Recess  | Recess  |
| 2/12/2020            | HALL 1   | HALL 2  | HALL 3  |
| 14.30 - 16.15        |  |   |   |
| 2/12/2020            | Special Session (SS2): Waste Management &  | Technical Session (TS3): Circular Economy:      | Special Session (SS3): WM & CE in countries in Northern & |
| 14.30 – 16.15        | Circular Economy in Bangladesh: (10 Presentations)   | (9Presentations)                                | West Africa: (10 Presentations)                           |

| Chairs                            | Chair: Prof. M Alamgir. Member UGC, Bangladesh  | Chairs : Mr Rohit Kumar, IAS, Ministry of Rural Development, India & Dr. Vladimir Naryev, Russia                       | Chairs: Prof. A. Dachour, Prof. Souad El Hajjaji, Morocco   |
|-----------------------------------|---|--|---|
| <b>2/12/2020</b><br>16.30 - 18.00 | HALL 1  | HALL 2   | HALL 3  |
|                                   | Technical Session (TS) – 4: Landfill (9Presentations)   | Special Session (SS4): Circular Economy & Employees' Wellbeing in Industries (GCRF & RAE sponsored): (7 Presentations) | Technical Session (TS) – 5; COVID 19 & Biomedical Waste Management : (9 Presentations)                  |
|                                   | Chairs: Prof. Mehmet Sinan Bilgili, Turkey and<br>Prof. S. K. Das, India  | Chairs: Prof. P. K. Dey, UK and<br>Prof. Sadhan K Ghosh, India   | Chairs: Prof. P. Agamuthu, Malaysia   |
|                                   | HALL 1  | HALL 2   | HALL 3  |
| <b>2/12/2020</b> 18.30 – 20.45    | Special Session (SS 5): Waste Management & Circular Economy in South American Countries: (8 Presentations)                      | Technical Session (TS) - 6: Wastewater (9 Presentations)   | Technical Session (TS) –7: COVID 19 & Biomedical Waste Management (6 Presentations)                     |
|                                   | Moderators: Prof. C. Suaniand Dr. P. Gustavo.   | Chairs: Prof. Chiranjib Bhattacharya and Prof.<br>Tapas K. Das   | Chairs: by Prof. Francesco Di Maria, Italy  |
|                                   | HALL 1  | HALL 2   | HALL 3  |
| <b>3/12/2020</b><br>11.00 – 13.30 | Special Session (SS 6): Waste Management & Circular Economy in Nepal and Bhutan: (10 Presentations)                             | Technical Session (TS) – 8: E-waste & Plastic Waste management and Marine Littering. (9 Presentations)                 | Technical Session (TS)- 9: Recycling & Solid Waste Management: (10 Presentations)                       |
|                                   | Chairs: Dr. Khatiwada, Ms. Ugyen Tshomo   | Chairs: Mr. Kazunobu Onogawa and Prof. P<br>Agamuthu   | Chairs : Prof. Aniruddha Mukherjee and Prof.<br>Pradip Sikdar, India                                    |
| 3/12/2020<br>13.30– 14.00         | Recess  | Recess   | Recess  |
| 3/12/2020<br>14.00 – 16.30        | HALL 1  | HALL 2   | HALL 3  |
|                                   | Special Session (SS 7): OPTOCE – Sponsored by SINTEF, Norway; NORAD and Norwegian Ministry of Foreign Affairs (11Presentations) | Technical Session (TS) - 10 : Wastewater (10 Presentations)  | Technical Session (TS) -11 : Construction and Demolition Waste Management (7 Presentations)             |
|                                   | Coordinator: Dr. Kåre Helge Karstensen, and Mr. Palash K. Saha, SINTEF  | Chairs : Prof. Ranjana chowdhury, and<br>Prof. Papita Saha Das, Kolkata  | <b>Chairs:</b> José António Silva Carvalho Campos Matos , portugal and prof. Venugopal Mahapatra, odisa |
| 3/12/2020                         | HALL 1  | HALL 2   | HALL 3  |
| 3/12/2020<br>16.45- 18.15         | Technical Session (TS) -12: Waste Management and associated aspects: (8Presentations)   | Technical Session (TS) –13 Climate Change,<br>/Circular economy/bio energy: (10 Presentations)                         | Special Session : (SS 8): Meeting for International Research<br>Collaboration                           |
|                                   | Chairs : Mr. Binay Kumar Jha, Director,<br>SBM <sub>,</sub> MoHUA, GoI, Prof. Deben Chandra                                     | Chairs : Prof. Aniruddha Mukherjee & Prof.Soma<br>Mukherjee  | Chairs : Prof. Sadhan K Ghosh   |
|                                   | Baruah, Tejpur University, India  |  |   |
| 3/12/2020                         | HALL 1  | HALL 2   | HALL 3  |
| 3/12/2020<br>18.30 – 20.30        | Technical Session (TS) - 14 : Sustainable Waste<br>Management : (10Presentations)   | Technical Session (TS)- 15: Waste Water (9 Presentations)  | Technical Session (TS)- 16: (To be added)   |

|                                   | Chair : Prof. R. L. Mersky, USA and Dr.<br>Mauro D. Berni, Mexico   | Chairs : Dr. Suneel pandey, Teri and Dr. B.<br>Majumdar, Sulav, India  | Standby sessions  |
|-----------------------------------|---|--|---|
| 4/12/2020                         | HALL 1  | HALL 2   | HALL 3  |
| <b>4/12/2020</b><br>11.00 – 13.00 | Special Session (SS 9): Waste Management & Circular Economy in Russian Federation (8 Presentations)           | Technical Session (TS) - 17: Bioenergy/ Processes/<br>LCA / Bioremediation: (10 Presentations)                                       | Technical Session (TS)- 18: Hazardous and Industrial Wastes Management & Recycling: (8 Presentations)     |
|                                   | Chairs : Dr. Vladimur Maryev, Prof. Liubarskaia<br>Maria,   | Chairs: Dr. H. N. Chanakya, Issc and Prof. M<br>srimurali, Svu, India  | Chairs: Dr. siddhartha mukherjee, Lurgy ltd. and<br>Prof. damodharan, Svu, India                          |
| <b>4/12/2020</b> 13.00-13.30      | Recess  | Recess   | Recess  |
| <b>4/12/2020</b> 13.30 – 15.30    | Special Session (SS 10): Waste Management & Circular Economy in Hungary (6 Presentations)                     | Special Session (SS11): Water Management,<br>Recirculation Technology & INDIA H20 Project (EU<br>& DBT sponsored): (6 Presentations) | Special Session (SS 12): WM & CE in countries in Eastern and Southern Africa: (11 Presentations)          |
|                                   | Chairs : Dr. Kovack Jozsef, Dr. Farkas, Hilda,  | Chair: Prof. Philip Davies, Prof. Gabriela Quesada   | Chairs: Dr. Rocio A. Diaz-Chavez  |
| 7/12/2020                         | HALL 1  | HALL 2   | HALL 3  |
| <b>7/12/2020</b> 11.00 – 13.00    | Technical Session (TS) – 19 Climate Change,<br>/Circular economy/bio energy: (4 Presentations)                | Technical Session (TS) - 20: Wastewater/waste management: (4 Presentations)  | Technical Session (TS)- 21: Hazardous and Industrial<br>Wastes/wastewater/waste management: (to be added) |
|                                   | Chairs: Prof. Soma Mukherjee and Prof.<br>Apurba Ghosh, India   | Chairs: Prof. B. C. Meikap IIT KGP and Prof.<br>Amit Hazra, Biswabhrati, India   | Chairs: To be announced   |
| <b>7/12/2020</b> 13.00-13.30      | Recess  | Recess   | Recess  |
| <b>7/12/2020</b> 13.30 – 15.00    | Special Session (SS-13): Waste Recovery and<br>Circular Economy in Petroleum and petrochemical<br>industries: | Technical Session (TS) – 22SWM   | Technical Session (TS) –23 Bio energy   |
|                                   | Chairs: Mr. J. P. Singa, ED, Pipelines Divn., ER, IOC Ltd.  |  |   |
|                                   | Speakers to be announced later  |  |   |
| <b>7/12/2020</b> 16.00 – 17.30    | Valedictory: Presentation of Chair's Summary, Awar  | rds Ceremony; Announcement of 11 <sup>th</sup> IconSWM-CE 202  | 21  |

# Detail Schedule of 10<sup>th</sup> IconSWM-CE 2020, December 02-07, 2020

[An official pre-event of 11th 3R Forum on Circular Economy in Asia and the pacific, 2021]

Time given in IST. Please convert time as per your country's geographical location

Please [Click to join] in any Hall any time during the program; kindly keep your microphone in Mute mode

| 2/12/2020: | Programme on 2 <sup>nd</sup> December 2020: | Hall 1 : Inaugural Ceremony [Click to join] |
|------------|---|---|
| 10.20 hrs. | 8   |   |

Prof. Dr. Sadhan Kumar Ghosh, Chairman, 10th IconSWM-CE & the President of ISWMAW, expresses his gratitude to all the speakers, chairs, sponsors, principal organizers, organizing partners, members in the committees, participants and their sponsoring organizations, hall management and the organizers for their support & participation in 10th IconSWM-CE 2020 making 240 presentations from 44 countries, UNCRD, UNIDO and UNEP with over 700 participating delegates in sessions under this stressed pandemic COVID-19 situation. Hope to present a meaningful event. Looking forward to see you in 11th IconSWM-CE 2021 for the benefit of the environment, mankind & living creatures.

| Participatin g Countries :      | 10 <sup>th</sup> IconSWM-CE 2020 will be participated by delegates and speakers from countries, namely, Bangladesh, Bhutan, Bolivia, Brazil, Chile, China, Ethiopia, Egypt, France, Georgia, Germany, Hungary, India, Indonesia, Japan, Lebanon, Malaysia, Mexico, Morocco, Myanmar, Nepal, Netherlands, Nigeria, Norway, Philippines, Portugal, Rowanda, Russia, Soudi Arabia, South Korea, South Sudan, Spain, Sweden, Tanzania, Thailand, Togo Republic, Turkey, Uganda, UK, Uruguay, UK, USA, Vietnam, Zambia, and UN organizations: UNCRD, UNEP and UNIDO.   |   |  |
|---------------------------------|---|---|--|
| <b>2/12/2020</b><br>10.50-12.20 | Hall 1: Hall will be opened at 10.20am (IST) for the entry of the delegates. Participants are requested to be in Mute mode and Camera off.  Questions can be written in Chat box which will be attended by the Chairs and organisers. After the inaugural ceremony three halls will be opened. You choose your session and join. You can switch over from one hall to other any time by only clicking on respective [Click to Join].  |   |  |
| 10.50 -11.00                    | 10 <sup>th</sup> IconSWM-CE: Program Introduction by: Dr. Kaniska Sarkar, JU and  | 1 Dr. Sutripta Sarkar, CU   |  |
| INAUGURA<br>L<br>CEREMON<br>Y   | Welcome Speech:Prof. Sadhan K. Ghosh, Chairman,IconSWM-CE- 5 minutes Speech by: Dr. Rene. Van. Berkel, UNIDO Representative in India; - 5 mins Speech by: Mr. Rohit Kumar, IAS, JS, MG NERGA, MoRD, GoI- 5 Minutes Speech by: Mr. Binay K. Jha, Director, SBM, MOHUA,GoI -5 mins Keynote Speech by: Mr. C R C Mohanty UNCRD, UNCRD, Japan; Co-Chairman, 10 <sup>th</sup> IconSWM-CE 2020 - 10 minutes Release of Proceedings of abstracts of 10 <sup>th</sup> IconSWM-CE 2020. Inauguration Speech: Prof. Suranjan Das, Vice Chancellor, Jadavpur University, India; -10 minutes:  Speech by: Mr. M Rao Divi, DIVIS Laboratory, India; -5 minutes | Speech by: Mr. K. Onogawa, Director, CCET IGES, Japan; Co-Chairman, 10th IconSWM-CE 2020 -5 minutes  Speech by: Prof. M. Nelles,Rostock University, Germany; Co-Chairman, 10th IconSWM-CE 2020-5 minutes  Speech by: Dr. Kare H. Karstensen, SINTEF, Norway; Co-Chairman, 10th IconSWM-CE 2020 -5 minutes  Speech by: Prof. P. Agamuthu, WMR, Malaysia; -5 minutes  Speech by: Dr. Alberto N. Naperi, BSCAU, Philippines -5 minutes  Vote of Thanks by: Dr. H N Chanakya, IISc, India; -5 minutes |  |

|                                   | HALL 1 [Click to join]   | HALL 2 [Click to join]   | HALL 3 [Click to join]  |
|-----------------------------------|--|--|---|
| Hall Team<br>Management           | Hall Manager : Dr. Kaniska Sarkar, India   | Hall Manager : Dr. Aparup Konar, India<br>and Dr. Asit Aich,   | Hall Manager : Prof. Sudip K. Das, India and Dr. A. Mandal,   |
| Organizers                        | Tejaswi Rana, Sourya Chakraborty, [Dr. Sutripta<br>Sarkar, Sonali Roy Choudhury, (Remote)]   | Jayeeta Banerje, Tanya Gupta, [Dr. Payel<br>Ghosh, Rahul Baidya, (Remote)]   | Raktim Dasgupta; Krishanu Hait; Abesh Chatterjee; [Anaya Ghosh, Rajarshi Chakraborty, (Remote)]   |
|                                   | HALL 1 [Click to join]   | HALL 2 [Click to join]   | HALL 3 [Click to join]  |
|                                   | Special Session - Philippines  | AD & Composting  | Circular Economy & Built Environment  |
| <b>2/12/2020</b><br>12.30 – 14.00 | Special Session (SS1): Waste Management & Circular Economy in Philippines  | Technical Session (TS)- 1  | Technical Session (TS)- 2   |
|                                   | Chair : Prof. Albert N. Naperi, Philippines  | Chairs: Prof. M. Nelles, Germany and   | Chairs: Mr. C R C Mohanty, Japan and Mr. M<br>Rao Divi, India.  |
|                                   | Mycelial growth performance of pleurotusostreatus and volvariellavolvacea in common kitchen wastes, Joany Alyssa B. Abogado, April Ann A. Cañal, and Arce D. Bellere, Philippines. | Keynote Speech : Energy Recovery frim biomass in Germany, Prof. M. Nelles, Germany  Effect of solids concentration for the   | Keynote Speech: Water efficiency and circularity in industry for competitiveness and resilience, Dr René Van Berkel, UNIDO Representative, Regional Office in India, <b>Delhi</b> |
|                                   | Advocating Circular Economy: Pili (Canariumovatum) Pulp Oil Isolation as IGP for Pili Processing Households in the Bicol   | solubilization of waste activated sludge in microwave pre-treatment, RagashreeSrinivas and Sabumon P.C., India.  | Keynote Speech: Circular Economy implementation in Asia and the Pacific, Mr. C R C Mohanty, UNCRD, Japan.   |
|                                   | Region Philippines, Ramona Isabel S. Ramirez, Philippines.   | A study of the Processes, Parameters, and Optimization of Anaerobic Digestion for food waste, Dr. Jyothilakshmi. R, Sumangala Patil,   | Keynote Speech: Circular Economy / Value<br>Recovery / Enhanced Life Cycle – Today's<br>Solution to Sustainable Waste Management, M Rao   |
|                                   | Agroforesting Development in Mt. Isarof for Poverty Alleviations and Aversion of Climate Change Impact, Llesol. Celerino B, Philippines.   | Hemanth Kumar. K. J, Dr. Sadhan Kumar Ghosh, Dr.Sandya Jayakumar. India.   | Divi, India.  Potential of Graphene reinforced Geopolymer composites towards and circular economy   |
|                                   | Fishing for life: An Ecosystem-based climate change adoption and mitigation in Fishery, Valenzuela, Flordeliza B, Philippines.   | <b>Effects Of Dried Sludge Types In Biowaste Decay Using Aerobic Composting Barrel,</b> Marcelino N. LunagJr, Luis Alphonso C. Aunor, Marvin Clark O. Bartolome, Kristian                | sustainability, R.S. Krishna <sup>1*</sup> , J Mishra <sup>2</sup> , S K Das <sup>3</sup> , BNanda <sup>4</sup> , S K Patro <sup>5</sup> , S.M. Mustakim, <b>India.</b>           |
|                                   | Assessment of Watershed conservation and preservation, Villavicencio, Jose Noel P, Philippines.  | Matthias A. Luquingan <sup>2</sup> , Prendonn R. Ocon,<br>Carl Bryan P. Pacol, Tyron Clemens B.<br>Palitayan, John Cedrex C. Quimson, Lucky<br>Jemard F. Quintay, John Michael M. Simon, | Upcycling of scraps from industries – a new dimension of circular economy, Mohanty Rupashree,   1*Srikanta Patnaik, India   |
|                                   | Sustainable Agriculture and Climate Change<br>Adaption and Litigation System at the Local  | Earl Jonas C.Wagan, Saint Louis University Philippines,  | Indonesia Main-Waste Bank for Sustainable Waste<br>Management Towards Circular Economy,<br>Ratnawati Kusuma Jaya'*, Sari Viciawati Machdum,                                       |

|                                   | Level, Foronda, Vladimir F,Philippines (Disaster management)  Disaster risk reduction management awareness and preparedness in the selected public secondary schools in guinobatan, albay, Cecilla Rosa L. Patiam, Mhica Joy O. Escalo, Philippines.  Characteristics and value adding in Agri-Industrial Wastes for Organic farm Input production, Abonal, Melchora V,Philipines.  QA and Chair's Summary | Valorization of Organic solid waste Using Anaerobic digestion, Mr. R. Balamurugan, Dr. S. Sankaran, India.  Modelling and simulation of a farm-scale biogas digester operated with crop residues, Preseela Satpathy, Frank Uhlenhut, Chinmay Pradhan, India/Germany.  Home Composter A Review, Satya Ranjan Panda; Kalpana Sahoo; Basudeb Munshi; Madhusree Kundu, India.  Assessment of the Performance of Different Animal Manure and Feacal Sludge Composting to Optimize the Mix Proportion – A Review, Balaganesh Pandiyan, Vasudevan Mangottiri, Natarajan Narayanan, India.  QA and Chair's Summary | Indonesia.  Management Insights for an Efficient Circular Built-Environment: Determining Factors and Framework Development, Purva Mhatre 1*, Vidyadhar Gedam 1, Seema Unnikrishnan, India.  Management insights for Reuse of Materials in a Circular Built-Environment, Purva Mhatre 1*, Vidyadhar Gedam 1, Seema Unnikrishnan, India.  Feasibility Study of Commercialized Self Circulating Biogas Generators: A Circular Economy Approach, Bhuvana Varadha V. P., Devanand B., Thavasivamanikandan T., Selva Nandhini S. India.  QA and Chair's Summary |
|-----------------------------------|--|--|---|
| <b>2/12/2020</b><br>14.00 – 14.30 | Recess   | Recess   | Recess  |
|                                   | HALL 1[Click to join]  | HALL 2[Click to join]  | HALL 3[Click to join]   |
| <b>2/12/2020</b><br>14.30 – 16.15 | Special Session (SS2): Waste Management & Circular Economy in Bangladesh   | Technical Session (TS3) : Circular Economy   | Special Session (SS3): WM & CE in countries in Northern & West Africa   |
| Chairs                            | Chair : Prof. M Alamgir. Member UGC,<br>Bangladesh   | Chairs: Mr Rohit Kumar, IAS, Ministry of<br>Rural Development, India & Dr. Vladimir<br>Maryev, Russia  | Chairs : <b>Prof. Abdelmalek Dachour and Prof. Souad El Hajjaji, Morocco</b>  |
|                                   | Occupational Health Safety of Waste Workers: A Review towards sustainable waste management in Bangladesh", Zuthi, M. F. R and Hossain A. CUET, Banglesdeh  Assessment of Solid Waste Management Options in the Slums of Khulna City, Tusar Kanti   | Keynote address: Circular Economy in Rural India, Mr Rohit Kumar, IAS, Ministry of Rural Development, India  Moving from Waste to Resource Management: A Case Study of Lake Toba, Indonesia, Miwa Tatsuno, Institute for Global  | Anaerobic co-digestion of drain sludge with fermentescible municipal waste of sokode (TOGO), NitaleM'Balikine KROU, Gnon BABA, Ogouvidé AKPAKI, Togo Republic.  Spent coffee grounds: efficient corrosion inhibitor and bioactive components source, Fatima Bouhlall,   |

Treating of Water Bodies of Dhaka City by Vetiver Based Phytoremediation, Samira Tasnim Progga1,\*, Mohammad Shariful Islam, Bangladesh.

Estimation of particulate matter pollution on different major roadways in khulna using geospatial & environmental analysis, Prottay Mazumder, Jobaer Ahmed Saju, and Q. H. Bari, Bangladesh.

A Compact System Development for Mitigating the Faecal Sludge Transportation & Emptying Problems Md Shehab Uddin1,, Dr. Md Nurul Islam, Nazmus Sakib, Rafat Safayet, Shariar Kabir Shohan, Nashid Mumtaz, Bangladesh.

A Comparative Analysis of Different Faecal Sludge Emptying Methods Used in Developing Countries, Hakim Dina Anjum, Faria Noor, Rezwana Sarwar, Md Enamul Haque Dr. A.R.M. Harunur Rashid and Sonia Shahid, Bangladesh.

A Low-cost Technical Solution for Emptying and Transporting Sludge from Narrow Road, Nafiza Anjum1, Zafrian Ikbal Shuvo, Neloy Chandra Das, Abu Bakkar Siddik, Rakibul Alam, Md Abid Hasan, Bangladesh

Air Purification Unit for Fecal Sludge Emptying to Protect the Operators and the Neighborhood from Toxic Gas Exposure – A Conceptual Design Approach, Sajib Kar, Tanweer Ahmed, A. F. Abrar Ibn Monabbar, Nur Alam Mondal4, Md Abid Hasan,Bangladesh

Sensor Based Global Positioning Monitoring System for Fecal Sludge Management-Impact on Manual Monitoring Improvement by Technological Support, Rubayet Ahmed, Md. Oluwadare Joshua OYEBODE, Nigeria

Red mud based geopolymer concrete for sustainable waste management, Nikita Barik, Jyotirmoy Mishra, India

Utilization of Banana Peels Waste with Rice Washing Water as a substrate in Microbial Fuel Cell Technology, Nurul Khaerani Anwar, Indonesia.

Strategies for Transition towards Circular Economy in Municipal Solid Waste Management System in India, Sarwani Budarayavalasa and Richa Singh,India

Water Efficiency and Circularity in Industry for Competitiveness and Resilience, René Van Berkel, Zinaida Fadeeva, India.

Environmentally Sustainable Municipal Solid Waste Management-A Case Study Of Thiruvananthapuram, India, Megha T. S, Sheetal Kamble, Akshey Bhargava, Purvi Patil, India

QA and Chair's Summary

Detecting cadmium (II) by using coal extracted from organic waste as modifier of carbon paste electrode, Khaoula ABBI, Lina Hermouch, Youssra El Hamdouni, Abdelmajid Skalli1, Mohammeed Dalimi, Mohammed El Mahi, El MostaphaLotfi, Souad El Hajjaji, Najoua Labjar, Morocco.

Adsorption of (methylene blue) onto natural oil shale: kinetics of adsorption, isotherm and thermodynamic studies, MaryemRAHMANIa\*, Ahmed MOUFTIc,d, ,MohamadineEL'MRABETe, AbdelmalekDAHCHOURe, Souad EL HAJJAJIa, Morocco

Job creation, entrepreneurship and capacity building in solid waste management: panacea towards circular economy, Oluwadare Joshua OYEBODE, Nigeria.

Analysis of the technical and financial approaches to solid waste management in a medium-sized city: case of Sokodé in Togo, NitaleM'Balikine KROU, Gnon BABA2, Togo Republic.

Wastewater Reuse in Morocco: challenges to change in perceptions towards social acceptance, Tarik CHFADI, Driss Dhiba, Souad El Hajjaji, Abdelghani Chehbouni, Morocco.

Constructed wetland technology for wastewater treatment in Morocco, Maria Benbouzid1,\*, Jamal Mabrouki1, Souad El Hajjaji, Abdelmalek Dahchour, Morocco.

Methylene blue removal by Adsorption using lowcost material as adsorbent, Nora Samghouli1,\*, Fatima Zahrae Abahdou1,N.Labjar and Souad El Hajjaji1, Rabat 10000, Morocco

Natural products as adsorbent for treatment of wastewater for reuse, Souad El Hajjaji, Abdelmalek

|               | Shahidul Islam,, Sadia Hossain Dristi, Md. Abdul<br>Karim and Sonia Shahid, <b>Bangladesh</b><br><b>QA and Chair's Summary</b>   |   | Dahchour, Driss Dhiba, Benguerir, Morocco  Utilization of Sodium Alginate Recovered from Brown Algae for Production of Edible Films, S.R. Mostafa, K.S. Nagy, M.A. Sorour; Cairo University, and Food Technology Research Institute, ARC, Cairo, Egypt  QA and Chair's Summary |
|---------------|--|---|--|
| 2/12/2020     | HALL 1 [Click to join]   | HALL 2 [Click to join]  | HALL 3 [Click to join]   |
| 16.30 - 18.00 | Technical Session (TS) –4: Landfill  | Special Session (SS4): Circular Economy & Employees' Wellbeing in Industries (GCRF & RAE sponsored)   | Technical Session (TS) – 5;<br>COVID 19 & Biomedical Waste Management  |
|               | Chairs: Prof. Mehmet Sinan Bilgili, Turkey and Prof. S. K. Das, India  | Chairs: Prof. P. K. Dey, UK and<br>Prof. Sadhan K Ghosh, India  | Chairs : Prof. P. Agamuthu, Malaysia   |
|               | Keynote Speech: Nanowaste Management and the Fate of Nanomaterials in Bioreactor Landfills, Mehmet SinanBilgili, Yildiz Technical  | Opening remarks by Prof. Siva Ramakrishn,<br>K,Vice Chancellor of GITAM   | Keynote speech by Dr, Kunal Sarkar, Senior Vice<br>Chairman & Senior Consultant Cardiac Surgeon,<br>MEDICA Superspecialty Hospital, Kolkata, India   |
|               | University, Istanbul, Turkey  Keynote Speech: Landfill leachate treatment using electrocoagulation: Case the Controlled Discharge of the City of Mohammedia-Morocco, JamalMabrouki,*, Souad El Hajjaji1, DrissDhiba, Morocco | Keynote speech: Could circular economy facilitates achieve economic, environmental and social performance equally?, Prof. Prasanta Dey, Aston University, UK  Transforming Indian SMEs through circular economy approach, Prof. Sai Nudurupati, GITAM, Vizag, India | Direct and indirect effects of COVID 19 pandemic on the environment and public health: Rethinking the strategies for plastic wastes, hospital wastes, and waste water management, Ritwija Bhattacharya, AniruddhaMukhopadhyay and PrithaBhattacharjee, India.                  |
|               | Impact Assessment of Open Dumping and Garbage Farming on Human Health and Adjacent Ecosystem: A Case Study, RiaGhosh, Dr. TumpaHazra, Kolkata, India   | Circular Economy implementation in SMEs in India, Raktim Dasgupta, Jadavpur University, India   | The Impact Of Environmental Waste Due To Aftermath Covid-19 Pandemic, K. R. Padma, K. R. Don, India.  Biomedical Weste Management: Need of the boun  |
|               | Knowledge, attitude and practices on solid waste management of communities living near close vicinity to okhla landfill site in delhi,   | Addressing wellbeing and Mental Health issues of SMEs manpower, Dr.Soumyadeb Chaudhury, Toulouse Business School, France  | Biomedical Waste Management: Need of the hour in the present COVID -19 pandemic scenario, Shilpa Bose, India.  |
|               | BiniSamal,ParasUtkarsh,Shyamala Krishna<br>Maniand MD Omprakash, <b>India.</b>   | Presenteeism and Productivity loss in Working Women of India, Thailand and Bangladesh due   | Protection of ConservancyWorkers Against COVID-19: Case of Waste Bengal, Dr. M.N. Roy and Dr. Debasri Mukherjee, India.  |
|               | Phytotoxicity assessment of landfill leachate emanating from young and legacy landfills using Lepidiumsativumvar, N. Anand1, Gireesha  | to Menstrual problems, Suneetha Kandi,<br>GITAM, Vizag, India   | Waste Management Initiatives in West Bengal for<br>Health and Environment during COVID-19  |

|               | T Mohannath1, P. Sankar Ganesh1*, Telangana, India  Assessment of the Impact of Bio-solids Application in Okra Cultivation Derived from Stabilized Fecal Sludge, Atun Roy Choudhury, L K Mahalakshmi, JheelamSarkar, Namita Banka, Rajarshi Banerjee, India  Fluid catalytic cracking catalyst driven production of bio fuel from waste plastic pyrolysis oil: A sustainable way of Waste Valorization, Abhijit Hazraa, b, Priyabrata Banerjeea, Sadhan Kumar Ghoshc, Harish Hirania, India.  Biogas Recovery From Poultry And Piggery Waste: A Review, David O. Olukanni and Chukwuebuka N. Ojukwu, Nigeria Modeling and Analysis of Linear Irrigation System, Md. Touseef Ahamad, P. Jahnavi, Khaleel Abdul Hur Ali, India | Circular economy adoption in textile and clothing industries in Bangladesh, Dr Krish Saha, Birmingham City University, UK  Reduction of carbon footprint through energy efficiency measures in the UK SMEs, Mr Jamal Lea, Aston University, UK  Closing remarks, Professor Pawan Budhwar, Head of Aston Business School, UK QA and Chair's Summary | pandemic, DebaprasadSarkar, SutriptaSarkar, Poulami Mukhopadhyay, India.  A critical analysis of the impacts of COVID-19 on the Indian economy and ecosystems and opportunities for circular economy strategies, Anaya Ghosh, Sadhan Kumar Ghosh, Jyoti Prakas Sarkar, Bimal Das, India.  Exercise in Immune Health Management and Rehabilitation against COVID 19, Dr. AparupKonar, Prof. Samiran Mondal, India.  QA and Chair's Summary |
|---------------|--|--|---|
| 2/12/2020     | QA and Chair's Summary HALL 1[Click to join]   | HALL 2[Click to join]  | HALL 3[Click to join]   |
| 2/12/2020     | MILL I GHOK to John  | man 2 chok to join   | mand of the to join.  |
| 18.30 – 20.45 | Special Session (SS 5): Waste Management & Circular Economy in South American Countries  | Technical Session (TS)- 6: Wastewater  | Technical Session (TS) –7: COVID 19 &<br>Biomedical Waste Management  |
|               | Moderators: Prof. C. Suani and Dr. P. Gustavo.   | Chairs: Prof. Chiranjib Bhattacharya and<br>Prof. Tapas K. Das   | Chairs : by Prof. Francesco Di Maria, Italy   |
|               | Chair: Opening speech by Prof. Sadhan K. Ghosh, India,  Section 1: Promoting the Sustainability in LAC   | Effect of physicochemical parameters on biodegradation of 4–Nitrophenol by an isolated indigenous bacterial consortium, Priyanka Sarkar, Apurba Dey, India.  | Session Keynote Speech: by Prof. Francesco Di<br>Maria, "Presence of SARS-CoV-2 on urban<br>catabolites and the role of waste management.<br>Francesco Di Maria, Italy  |
|               | based on Circular Economy<br>Moderator: Suani Coelho, USP Professor,<br>Brazil   | The Study of Hydrochemical Composition of Wastewater of the Capital City of Georgia, NatelaDzebisashvili (Dvalishvili) <sup>1</sup> , Mariam   | Protection of Conservancy Workers against COVID-19: Case of Waste Bengal Dr. M.N. Roy and Dr. Debasri Mukherjee, India.   |
|               | From Waste to Resource - Shifting paradigms for smarter wastewater interventions in Latin  | Tabatadze' Institute of Hydrometeorology at Georgian Technical University, Georgia,  | COVID Related Biomedical Wastes: Emerging   |

**America and the Caribbean**, Diego Rodrigues, Sr. Economist, Water Global Practice, World Bank, **Uruguay** 

Brazil as the go-to market for biogas production, Alessandro Amadio, UNIDO Representative for Brazil and Venezuela, Brazil/Italy.

Experiences of Biodigesters Network for Latin America and the Caribbean, Mariela Pino, General Coordinator of RedBioLac, Chile

Debater : Gustavo Rafael Collere Possetti, Sanepar R&I Manager / ISAE Professor, Brazil

Section 2: Innovation and partnerships in LAC for the sustainability at "normal new" context Moderator: G. R. C. Possetti. Brazil

Circular Economy and Water Technology:
Perspectives from a partnership between
TheNetherlands and Brazil, LuewtonLemos F.
Agostinho, Wetsus, European Centre of Expertise
for Sustainable Water Technology and NHL
Stenden University of Applied Sciences.,
Brazil/Netherlands

Sustainable Sanitation Alliance Latin America Network, Lourdes Valenzuela, Regional SuSanA Coordinator (Latinoamérica) / Directora de comunicación AGUATUYA, Bolivia

Pandemic response plans in Water Companies: Results from the online network in Brazil and Peru, Carolina B. G. Cabral, Engineer of Rotaria do Brasil, Brazil/Peru

**Debater :** Suani Coelho, USP Professor, **Brazil QA and Chair's Summary** 

An appraisal on a meso-scaled study for surface water pollution level measurement in Durgapur Industrial region, West Bengal, India, Suman Chatterjee, Kaniska Sarkar, India.

Decolorization and detoxification of Congo Red azo dye by Immobilized Laccase of Streptomyces sviceus, Bhoodevi Chakravarthi, Vani Mathkala and Uma Maheswari Devi Palempalli, India.

Removal of Fluoride from Wastewater by Precipitation and Coagulation in a Continuously Fed Stirred Tank Reactor, Anup P. Pardey ,Dr. AvijitBhowal, Dr. Papita Das , SudhanyaKarmakar, India.

Bioaugmentation approach to enhance aerobic granular reactor (AGR) performance in industrial wastewater treatment: a mini review, S. Ghosh, S. Chakraborty, India.

Natural Adsorbent Incorporated Polymer Composite Membrane for Waste Water Treatment, Paramita Das, Chiranjib Bhattacharjee, India.

Environmental issues of the river Saraswati:
a perception based study from Tribeni to
Nasibpur, Hooghly, Arkadeep Dutta,
S.Chakraborty, M Banerjee, India
Modelling and Analysis of Portable Water
Hyacinth Remover, Mohammad Touseef

Ahamad, M. Sai chand, A. Bharat Kumar, Khaleel Abdul Hur Ali**,India** 

**QA and Chair's Summary** 

**Challenges And Future Directions,**IpsitaMaity, SudeshnaGhoshal, Aniruddha Mukhopadhyay, **India.** 

Environmental Sound Management of Biomedical Waste Generated During COVID Pandemic Crisis in India, Richa Singh<sup>1\*</sup> and SarwaniBudarayavalasa, India

Health Care waste management in Nepal: Pre- and post-COVID-19 scenario, BinayaSapkota, Nepal

Resonance of COVID-19 pandemic on municipal solid waste management: An Empirical assessment from West Bengal, India, DebaprasadSarkar, SutriptaSarkar, ArpitaGhow, Ananya Mukherjee,India.

LPG Reticulated System instead of Conventional LPG Cylinders for Residential Flats: A step to reduce physical intervention essential for combating COVID-19, Ashanendu Mandal, Sudip Kumar Das, Kolkata India

COVID Related Biomedical Wastes: Emerging Challenges And Future Directions, Ipsita Maity, Sudeshna Ghoshal, Aniruddha Mukhopadhyay, India

Psychological trauma faced during the pandemic outburst of covid-19 disease, K. R. Padma, P. Josthna, India.

QA and Chair's Summary

| 3/12/2020  | HALL 1 [Click to join]   | HALL 2 [Click to join]  | HALL 3 [Click to join]  |
|--|--|---|---|
| 3/12/2020<br>11.00 – 13.30   | Special Session (SS 6): Waste Management & Circular Economy in Nepal and Bhutan  | Technical Session (TS) – 8 : E-waste & Plastic Waste management and Marine Littering  | Technical Session (TS)- 9: Recycling & Solid Waste Management   |
|  | Chairs: Dr. Khatiwada, Nepal; Ms. Ugyen Tshomo, National Environment Commission, Bhutan  | Chairs: Mr. Kazunobu Onogawa, Japan, and<br>Prof. P Agamuthu, Malaysisa   | Chairs : Prof. Aniruddha Mukherjee, India and<br>Prof. Pradip Sikdar, India   |
|  | Keynote Speech: Nexus of COVID 19, Health and Sanitation, Dr. Usha Jha, Member, National Planning Commission, Nepal                                  | Keynote Speech: Strategies to Reduce<br>Marine Plastic Pollution from Land-based<br>Sources in Low and Middle-Income<br>Countries, Kazunobu Onogawa, Japan. | Adaptation of recycling policy for solid waste management for Kolkata metropolitan city, Udita Mukherjee, Kaniska Sarkar, India.                    |
|  | Life Cycle Assessment of Solid Waste Management Options in Dhulikhel Municipality, Nepal, Anish Ghimire, Kathmandu University, Nepal                 | Keynote Speech: Plastics Waste Management in Malaysia, Agamuthu, P & Jayanthi B, Malaysia.  | Critics on Solid Waste Management Policies:<br>Advancement towards a zero-waste goal, Monjit<br>Roy, Srimanta Ray, India.                           |
|  | Escalated Use of Plastics on the verge of COVID-19 Pandemic in Nepal: Challenges and Recommendations, Dipika KC, Freelance                           | Keynote Speech: Public Policy toward<br>Municipal Plastic Waste in Bandung City,<br>Indonesia, Arisman, Suyud Warno Utomo,                                  | Perspective on glass waste management, Abhigyan Chakraborty, Srimanta Ray, India.  Prevalence of Anaemia among rural women                          |
|  | Researcher, Kathmandu, Nepal,  Study Of Hospital Waste and Management Practices in the Isolation Wards of the  | Indonesia.  Generic model of sustainable e-waste management of Kolkata, Dr. Shelly De   | having Poor sanitation practice: findings from a cross-sectional study in Odisha, India, Kripalini, Kulumina Dash, India.                           |
| Kathmandu Valley during COVID-19, Ina<br>Shrestha, Freelance Researcher, Kathmandu,<br>Nepal | Shrestha, Freelance Researcher, Kathmandu,   | (Pandit), Dr. SubhasisMukhopadhyay and Dr. Dipankar Dey, India.  Review on recent methodology towards   | Effect of different quantity and types of polymer films on kitchen waste, AmritPritam Rout, DeepshikhaDatta, Bimal Das, India.                      |
|  | Assessing the Pharmaceutical compounds in the wastewater from selected hospitals of Kathmandu, Nepal, Shreeya Bhattarai, Kathmandu University, Nepal | epoxy removal from e-waste PCBs, Balaji<br>R.1*,Prabhakaran D.2,<br>Thirumarimurugan M, India.  | Road towards sustainable urban solid waste<br>management: Review of diversion practices of<br>Baguio City, Philippines, Jeffrey Z. Duran, Marcelino |
|  | Integrated Waste Utilization on Induction Furnace Slag, Lekhar N.Sharma, Head, E& OHS,   | E-Waste as an emerging Public Health<br>Challenge- Indian Perspective, Prof. P.<br>Vijaya Lakhsmi, Y. Sathvik, India/USA.                                   | N. Lunag, Jr, Eugene D. Buyucan, Jessie C. Elauria, Philippines   |
|  | Prodn.Manager of QC, Lhaki Steel Plant, <b>Bhutan.</b>   | A call for a value rearrangement to achieve   | A Mini- Review on Economic Aspects of Market Waste Valorization in India, Sutripta Sarkar1 and Debaprasad Sarkar2                                   |
|  | Potential Drivers for Municipal Solid Waste  | sustainability – example of single use  | Douplasad Sarkar2   |

|               | Managament Duchlama in Dhutan Viighna Lal  | wlastics I anti-onViscos Issues                 | , Kolkata, <b>India</b>   |
|---------------|--|---|---|
|               | Management Problems in Bhutan, Krishna Lal<br>Chhetri, Country Head, South Asian Forum for | plastics,LavtizarVesna, Japan.                  | , Koikata, Ilidia   |
|               | Environment, <b>Bhutan</b>   | Quantification and Characterisation of          | Life Cycle Assessment Of Solid Waste  |
|               | Environment, <b>Ditutan</b>  | microplastics in freshwater kaveri river        | Management Options For Dhulikhel Municipality,  |
|               | Indiana CW at Manager to Election  |   | Nepal,S. Bajracharya, A. Adhikari, A. Ghimire,  |
|               | Inclusion of Waste Management in Educational   | sediments collected at Tiruchirappalli, India., |   |
|               | Institutes and Community, Ugyen Tshomo, Asst.  | SelvakumarMuniraj, PraveenkumarDharmaraj,       | Nepal |
|               | Environment Officer, Waste Management Flagship   | TamilselviDuraisamy, SivasankarVenkatraman      | Urban Green Space Solid Waste Management for  |
|               | Program, Waste Management Division, National   | and VasanthyMuthunarayanan, India.              | Climate Mitigation of Khulna City, Tusar Kanti  |
|               | Environment Commission, Bhutan.  |   | Roy, Md Mustafa Saroar, Md Ashraful   |
|               |  | 1. Survey methodologies to determine the        | Alam, Bangladesh  |
|               | Assessing the extent of antibiotic pollution in  | supply chain & inventory of non-recyclable      |   |
|               | hospital wastewater using HPLC, S. Bhattarai,*,  | plastic wastes in landfill and other sectors    | Industrial Solid Waste Management Practices in  |
|               | R. Joshi, R. Bhatta, S. L. Shyaula, Dhulikhel,   | towards closing the loop through co-            | Ota, Ogun State, Nigeria, David O. Olukanni and   |
|               | Nepal  | processing, Sourya Subhra Chakraborty Sadhan    | Essien E. Mmenieabasi, Nigeria  |
|               |  | K. Ghosh, India                                 |   |
|               | Study of hospital waste and management   |   | QA and Chair's Summary  |
|               | practices in the isolation wards of the  | 2. Sampling plan and test methodologies of      |   |
|               | kathmandu valley during covid-19. I. Shrestha,   | non-recyclables & recyclable                    |   |
|               | D. KC, Y. Dahal, B. Thapa and A. Ghimire, Nepal.   | plastic wastes from different sources for       |   |
|               |  | reciculation through co-processing, Abesh       |   |
|               | The E-Waste Management Novel Social  | Chatterjee, Sadhan K. Ghosh, India              |   |
|               | Challenges for Nepal: Post Covid-19 Issue,J.   | 3   |   |
|               | Giri, H. R. Joshi, S. Aryal, R. Gautam, A.   | 3. Co-processing of Non-Recyclable plastic      |   |
|               | Neupane, R. Bhattarai, Nepal   | waste in Cement Kiln Sadhan K Ghosh,            |   |
|               |  | Tejashwi rana, India                            |   |
|               | QA and Chair's Summary   |   |   |
|               |  | QA and Chair's Summary                          |   |
| 3/12/2020     | Recess   | Recess  | Recess  |
| 13.30– 14.00  |  |   |   |
| 10.00 11.00   | HALL 1 [Click to join]   | HALL 2 [Click to join]                          | HALL 3 [Click to join]  |
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| 3/12/2020     | Special Session (SS 7) : OPTOCE – Sponsored  | Technical Session (TS) -10 : Wastewater         | Technical Session (TS) -11 :Construction and  |
| 14.00 – 16.30 | by SINTEF, Norway; NORAD and Norwegian   |   | <b>Demolition Waste Management</b>  |
|               | Ministry of Foreign Affairs  |   |   |
|               | Coordinator : Dr. Kåre Helge Karstensen, and   | Chairs: Prof. Ranjana chowdhury, and            | Chairs: Dr. Elisabete Teixeira, Portugal and  |
|               | Mr. Palash K. Saha, SINTEF.  | Prof. Papita Saha Das, Kolkata                  | Prof. Benugopal Mahapatra, Odisha, India  |
|               | OPTOCE: Ocean Plastic Turned into an   | Applicability of industrial solid waste as a    | Reduction of construction and demolition wastes   |
|               | Opportunity in Circular Economy  | low-cost adsorbent for removal of toxic         | with its reuse in different construction scenarios,   |
|               |  | phenol from wastewater, AshanenduMandal,        | E.R. Teixeira, A. Fernandes, j. Campos E matos,   |
|               | Opening remarks : HE Norway's Ambassador   | Sudip Kumar Das, <b>India.</b>                  | Portugal.   |
|               | Opening remarks . The Norway 8 Ambassador  | ,   | Θ   |

to India, Mr. Hans Jacob Frydenlund, Delhi

**Keynote presentation – OPTOCE,** Dr. Kåre Helge Karstensen, SINTEF, **Norway** 

**Introduction to the India-Norway Marine Pollution Prevention Initiative**, Mr. Karan
Mangotra **UNEP**, **Delhi** 

Ongoing OPTOCE research at Jadavpur University, Kolkata, India, Prof. Sadhan K Ghosh, Jadavpur, India

Remedial Strategy for the Ghazipur Dumpsite in Delhi, India, G Nigam\*, L Valsan, P K Saha, K H Karstensen, C J Engelsen M Babu, India; & Norway.

Ongoing OPTOCE research at Asian Institute of Technology, Bangkok, Prof. Dr. Chettiyappan Visvanathan, Asian Institute of Technology, Bangkok, Thailand

Ongoing OPTOCE research at Vietnam National University, Prof. Dr. Trinh, VNU, Hanoi, Vietnam

Ongoing OPTOCE research at Yangon University, Prof. Dr Aye Mi San, Yangon University, Myanmer

**Landfill Mining project in Thailand,** Dr. Vincent Aloysius, General director, Ecocycle, **Thailand** 

**Co-processing of non-recyclable Plastic Wastes** in Vietnam, Mr. Bruno Fux, General director, Ecocycle, Vietnam

Applicabilityofdifferentadsorptionisothermsforadsorption,SamanwitaBhattacharya,BaisaliRajbansiandSudip Kumar Das, India.

Scale-up Design Methodology of the adsorption process, Research Scholar, Chemical Engineering Department, University of Calcutta, India.

An inclusive review on possible adsorption mechanism of the heavy metals or organic pollutants present in wastewater with the agricultural waste and its by-products, KoushikGhosh,

IndrajitGhosh,AsitBaranBiswas, Sudip Kumar Das, India.

Impact of agricultural pollutants on aquatic ecosystem and its management: a review, Munish Sharma, Navneet And Munit Sharma, India.

Exploration of River Bank Filtration and its Performance along River Damodar, West Bengal, India, Amita Mondal, Udayan Mondal, Harish Hirani, Naresh C. Murmu, Priyabrata Banerjee, India.

Weighted Arithmetic Index Method-A Complementary Tool for Generating Water Quality Indices, M. Musabbir Ahnaf, Islam M. Rafizul and M. Badiuzzaman Shuvo Bangladesh.

Removal of Ofloxacin using advanced process from wastewater with Toxicity analysis of end product and moving towards sustainable technological

An investigation on mechanical properties of IS concrete specimens confined with FRPcomposites, Sudheer Ponnada, and G. ChandramukhiSai, India.

Construction waste management in public housing projects through application of ranking and principal component analysis, Adil Masood<sup>1\*</sup>, Akash Prakash<sup>2</sup>, Kafeel Ahmad<sup>1</sup> Abdul Hameed Siddiqui<sup>1</sup>, QuocBao Pham, India/Vietnam.

Using Steel Ladle Furnace Slag in Cementitous Media, Iffat SULTANA and G. M. Sadiqul ISLAM, Bangladesh.

Construction wastes management towards innovation and circular economy in nigeria: challenges and way forward, Oluwadare Joshua OYEBODE, Nigeria.

Life cycle analysis – an analysis of input, output and power consumption for small scale compressed stabilized soil block production, Mohamed Suhail Thayyil<sup>1</sup>, Dr. Renu Pawels<sup>2</sup> K. AnaghaVenugopal<sup>3</sup>, Kerala, India

A Study On Theories Of Plasticity And Their Applicability To Soils Under Environmental Engineering, Maaz Allah Khan, Syed TabinRushad, India

**QA and Chair's Summary** 

|                           | Co-processing of non-recyclable Plastic Wastes from Yangtze River in China, Ms Meijia Liu, CRAES/MEE, Beijing, China QA and Chair's Summary  | development, Krishanu Hait <sup>1*</sup> , Sadhan K<br>Ghosh <sup>2</sup> , Asok Adak, India  Adsorption of Malachite Green over<br>modified Bambusa Tulda: Taguchi<br>Optimization, Nirban Laskar 1*; Arpan<br>Herbert 2; Upendra Kumar, Silchar, , India  Swachha Sundara, Namma Bidar; Waste<br>Management project in the Karez of Naubad,<br>Naveen YS, India  QA and Chair's Summary  |   |
|---------------------------|--|--|---|
| 3/12/2020                 | HALL 1 [Click to join]   | HALL 2 [Click to join]   | HALL 3 [Click to join]  |
| 3/12/2020<br>16.45- 18.15 | Technical Session (TS) -12 : Waste Management and associated aspects   | Technical Session (TS) –13 Climate Change,<br>/Circular economy/bio energy   | Special Session : (SS 8): Meeting for International Research Collaboration  |
| 100.10                    | Chairs: Mr. Binay Kumar Jha, Director, SBM (Urban), MoHUA and Prof. Deben Chandra Baruah India   | Chairs: Prof. Dr. Hosam E.A.F. Bayoumi<br>Hamuda, Hungary; Prof. David O.<br>Olukanni, Covenant University, Nigeria  | Chairs : Prof. Sadhan K Ghosh   |
|                           | MSW as an IoT enabled service— A Case of Ekamra-Kshetra, SukanyaDasgupta, Avik Roy, India.  Environmentally sustainable municipal solid waste management — A case study of Thiruvanananthapuram, India, Magha T.S, Dr. AksheyBhargava, SheetalKamble, PurviPatil, India.  Review: Potential of earthworm for solid waste management, KomalDuhan, RachnaGulati and MukhanWati, India.  SwachhaSundara, NammaBidar; Waste Management project in the Karez of Naubad, Naveen YS, India.  Sustainable municipal solid waste management: A GHG reduction study of Kolkata, Samran Banerjee, AmitDutta, India. | Economics of Nutrient Filtering Service of Mangrove Ecosystem of Karnataka, India, Balamurugan, S., Muthukrishnan, L., Karthi, N., Niruban Chakkaravarthy, D., Yogaanandhi, A., Asir Ramesh, D., Karnataka, India.  Carbon Neutral Farming: Pathway for Climate Change Mitigation, Dineshkumar M, Vijay Nepolean A, BharaniPriya A, Naveen Romi J, RaveenaShri G K, Kirubakaran V*, Tamil Nadu, India  Consideration climate change in the protection of the Environment in Georgia, LianaKartvelishvil, LashariKurdashvili, Georgia  Locally Fabricated Technology to Contemplate Circular Economy in Faecal Sludge Management - A Case Study of Technology Maturation and its impact for Bangladesh, Sonia Shahid, Md Abid | All the country members and delegates are invited to participate and propose different collaborative research projects. ISWMAW-lconSWM-CE will support for collaboration. |

|                            | Waste Management in Beleghata Deshbandhu Girls' High School (H.S.), Dr. Mandira Ghosh, India.  Exploring Synergistic Integration of ZED and Waste Management, R. Dasgupta, S.K Ghosh, A.R.Mukhopadhyay, Kolkata, India  A Review: Municipal Solid Waste Management in India, KomalDuhan, RachnaGulati and MukhanWati, India  QA and Chair's Summary | Hasan,Bangladesh.  Antifungal activity of fruits, leaves, and seeds extract of ceibapentandra against Colletotrichumcoccodes, James Carlo P. Frias, Arce D. Bellere, Shiela Mae M. Alforte, Rica B. Sarit, Jeffrey S. Catubig ,Philippines.  Studies on bioremediation of lead using lead resistant Acinetobacter sp 158 immobilized in calcium alginate beads, M. Bose S. Datta, P. Bhattacharya ,India  An environmentally friendly process pathway for safe disposal of paddy stubble, aSurface Engineering and Tribology Division, CSIR- |                             |
|----------------------------|---|--|-----------------------------|
|                            |   | Central Mechanical Engineering Research<br>Institute, India<br>QA and Chair's Summary  |                             |
| 3/12/2020                  | HALL 1[Click to join]   | HALL 2[Click to join]  | HALL 3[Click to join]       |
| 3/12/2020<br>18.30 – 20.30 | Technical Session (TS)- 14 :Sustainable Waste<br>Management   | Technical Session (TS)- 15: Waste Water  | Technical Session (TS)- 16: |
|                            | Chair : Prof. R. L. Mersky, USA and<br>Dr. Mauro D. Berni, Brazil   | Chairs : Dr. Suneel pandey, Teri and<br>Dr. B. Majumdar, Sulav, India  |                             |
|                            | Keynote Speech: International Variations in MSW Practice - Why the Differences, Prof. R. L. Mersky, Widener University, Philadelphia, USA   | Waste to energy as an alternative energy source for waste management in Nepal, Bindu MallaThakuri, Sadhan Kumar Ghosh, Sun Jin Yun, India/South Korea  | Standby sessions            |
|                            | Keynote Speech: Resource Circulation for circular economy in Asia Pacific and other regisons, Prof. Sadhan K Ghosh, Jadavpur University, Kolkata, India.  | Hydrophilicity improvement of Polysulfone<br>Membrane Using Different weight<br>percentages of Polyvinylpyrrolidone And a<br>performance study in Dairy Wastewater<br>Ultrafiltration, Somakraj Banerjee, Arijit<br>Mondal, Ranjana Das, and Chiranjib   |                             |
|                            | Circular Economy in the Electronics and Cell<br>Phones Industry: International practices and<br>recommendations for Mexico, Yesenia Chavana-<br>Castro, Ismael Aguilar-Barajas, Mexico.   | Mondai, Ranjana Das, and Chiranjio Bhattacharjee, India.  Wastewater Ultrafiltration and Hydrophilicity improvement of Polysulfone membrane Using Polyvinylpyrrolidone,  |                             |

Techno-economic and life-cycle assessments of small-scale biorefineries for butyric acid, isobutanol and isobutene production, Andrés Suazo, Fidel Tapia, Germán Aroca, Julián Quintero, Chile

E-waste in Mexico's northern border cities: challenges and prospects, María Eugenia González Ávila, Mexico.

Strategy For Electronic Waste Management For Sustainable And Green Environment In Nigeria, Oluwadare Joshua OYEBODE, Nigeria

Waste Management in BeleghataDeshbandhu Girls' High School (H.S.), Dr. Mandira Ghosh, India

A Call for a Fashion Pact: Challenges and Opportunities for Circular Economy in the Brazilian Fashion Industry, AnaFábia Ribas de Oliveira Ferraz Martins, Angela Cassia Costadello, Yasmin Pires Wolff, Stella Maris da Cruz Bezerra, Brazil.

**Upgrading Landfill Gas to Biomethane and the Potential Use in Urban Bus Fleets,** Mauro D.
Berni<sup>1</sup>, Paulo C. Manduca<sup>1</sup>, Ivo L. Dorileo<sup>2</sup>,
Leonardo G. de Vasconcelos, **Brazil.** 

From Urban Waste to Urban Farmers: Can we close the agriculture loop within the city bounds?, Rafael Carvalho Machado, Brazil.

OA & Chair's Summary

Somakraj Banerjee<sup>1</sup>, ArijitMondal, Ranjana Das, and ChiranjibBhattacharjee,**India.** 

Utilization of agro-waste material as potential adsorbent for wastewater , SumaiyaSulaiyam Alyaaqubi1, Murutza Ali Syed, FerozShaik, Mohammed Nayeemuddin,Soudi Arabia

Development of Layered Double Hydroxide Derived Adsorbents for Removal Of ArsenicToxicity, Manjusha Chakraborty, Ranjana Das, Chiranjib Bhattacharjee,India.

Modeling steady-state performance of MBBR treating municipal sewage, Rishi Raj Verma, Shilpa V Mishra, P. Sankar Ganesh, India.

**Recovering water from Textile Effluent using Solar dryer,** Nilofar Nisha J, Devi Priyanka R,**India**.

Detecting cadmium (II) by using coal extracted from organic waste as modifier of carbon paste electrode, Khaoula ABBI, Lina Hermouch, Youssra El Hamdouni, Abdelmajid Skalli1, Mohammeed Dalimi1, Mohammed El Mahi1, El Mostapha Lotfi1, Souad El Hajjaji, Najoua Labjar, Morocco.

**QA and Chair's Summary** 

| 4/12/2020                         | HALL 1[Click to join]   | HALL 2[Click to join]   | HALL 3[Click to join]  |
|-----------------------------------|---|---|--|
| <b>4/12/2020</b><br>11.00 – 13.00 | Special Session (SS 9): Waste Management & Circular Economy in Russian Federation   | Technical Session (TS) - 17: Bioenergy/<br>Processes/ LCA / Bioremediation  | Technical Session (TS)- 18: Hazardous and Industrial Wastes Management & Recycling   |
|                                   | Chairs : Dr. Vladimur Maryev,<br>Prof. Liubarskaia Maria, Russia  | Chairs: Dr. H. N. Chanakya, IISc and<br>Prof. M Srimurali, SVU, India   | Chairs: Dr. Siddhartha Mukherjee, Lurgy ltd. and<br>Prof. Damodharan, SVU, India   |
|                                   | Keynote Speech: Dr. Vladimir Maryev, Federal Institute, Ecological Industrial Policy Centre, Russia, "Russia towards the SDGs. National project "Ecology" and Waste recycling Strategy as focal points for Circular Economy | Studies on bioremediation of lead in a packed bed bioreactor using lead resistant Acinetobactersp. 158 immobilized in calcium alginate beads, M. Bose*, S. Datta, P. Bhattacharya, India. | Coal fly ash utilization in India: A review, Dipankar Das*, Prasanta Kumar Rout, Tripura, India  Sludge management in crude oil storage tanks at PHBPL Haldia, Sayantan Das, AnkitMangal, Risabh   |
|                                   | development in Russia",  Keynote Speech: Liubarskaia M., Saint-   | Biomining: A Sustainable Solution for Reclamation of Open Landfills in India,   | Kumar, DebduttaBiswas, IOCL, Haldia, India  Demonstration Of Recycing Potential Of Fly Ash   |
|                                   | Petersburg State University of Economics, Saint Petersburg, Russia-"Prospects of Introduction of Solid Waste as a Renewable Energy Source in Russia"  | Nabanita Ghosh, Dr. Tumpa Hazra, Dr. Anupam Debsarkar, India.  Immobilization of Tannase from Alternaria alternate TUSGF1on chitosan  | And Ggbs As Geopolymeric Binder For Construction Of Utility Building, Dr R. Jeyalakshmi,* R Bharath <sup>2</sup> , T Revathy <sup>2</sup> , Baskara Sundararaj <sup>3</sup> , Rajamane N P Kattankulathur, India   |
|                                   | Corporate Environmental Responsibility as an Important Aspect of Circular Economy, Ipatova D., Higher School of Economics, Saint-Petersburg, Russia   | beads, TapasiPolley, Uma Ghosh, India.  Optimization of saccharification process parameters for bioethanol production from waste broken rice, Payel Mondal,                               | Ferrochrome ash-based geopolymer concrete incorporating fly ash and lime water, Jyotirmoy Mishra <sup>1*</sup> , Bharadwaj Nanda <sup>1</sup> , Sanjaya Ku. Patro <sup>1</sup> , Shaswat Ku. Das <sup>2</sup> , R.S. Krishna <sup>1</sup> , Syed M. Mustakim <sup>3</sup> , Odisha, <b>India</b> |
|                                   | The Role of Automation in Eco-Industrial Park Development in Russia, Yaroslavtsev D. (Baltic Academy of Tourism and Entrepreneurship, Saint-Petersburg, Russia  | AnupKumarSadhukhan, AmitGanguly, ParthapratimGupta, India.  Production of ethanol from food waste, D. Y. Patil Institute of Engineering, Management &                                     | Bioaccumulation of cobalt by two identified bacteria isolated from galvanizing industrial sludge, Dipankar Roy, and Arup Kumar Mitra, India.   |
|                                   | Hazardous waste management as the important issue in CE approaches. Pilot projects in the Russian Federation., Ekaterina Demicheva, UNIDO expert, Russia,   | Research, India.  Biofuels and Health Hazards – An Overview, Swapan Banerjee, Soumen Ghosh, Gourav Dhar Bhowmick, Ronit Mondal,   | A study on the annual and seasonal variation of the air quality index of NCR-Delhi, Baishali Chakraborty, Srimanta Ray,India   |
|                                   | Industrial symbiosis as the base for secondary resources management within the CE   | Ashim Kumar Giri, <b>India.</b>   | Occupational Health Safety of Waste Workers: A<br>Review towards Sustainable Waste Management in   |

|                                   | framework. Practical implementation in Russia, Tatiana Smirnova, Gubkin University, Russia & Dr. AmaniMaalouf, Lebanon . Cost optimization, feasibility, and reliability of hybrid renewable energy water pumping system for the climatic conditions of Haldia using HOMER: A case study, MadhumitaDas and RatanMandal,India  Study And Analysis Of Solar Radiation In Tropical Region Of India,P. Narendra Mohan, <sup>2</sup> Md. TouseefAhamad, India QA and Chair's Summary | Assessment of Different Methods of Extraction of Banana Fibre from Banana Pseudostem Waste, LipsitaSaha, Samima Razia, Ramalaxmi Dutta, Aniruddha Mukhopaddhayay, Debasish Das, India.  Physicochemical Characterisation And Toxicity Study Of Poultry Litter Biochar, Anjali T.B, Anand M., Kerala, India  Fortification of tomato powder in dairy products, SrijeetaSaha*1, RajarshiChakraborty, India QA and Chair's Summary | Bangladesh, Md. Arif Hossen, Mst. Farzana R Zuthi,Bangladesh.  Greening of Solid Waste Management System in Achieving Sustainable Development Goals,Chowdhury S R, Ghosh S K,India  QA and Chair's Summary   |
|-----------------------------------|---|---|--|
| <b>4/12/2020</b> 13.00-13.30      | Recess  | Recess  | Recess   |
| 13.30 – 15.30                     | HALL 1[Click to join]   | HALL 2[Click to join]   | HALL 3[Click to join]  |
| <b>4/12/2020</b><br>13.30 – 15.30 | Special Session (SS 10): Waste Management & Circular Economy in Hungary   | Special Session (SS 11): Water Management,<br>Recirculation Technology & INDIA H20<br>Project (EU & DBT sponsored)  | Special Session (SS 12): WM & CE in countries in<br>Eastern and Southern Africa  |
|                                   | Chairs: Dr. Kovack Jozsef, Dr. Farkas, Hilda,   | Chair : Prof. Philip Davies, UK; Prof. Gabriela Quesada, Netherlands.   | Chairs: Dr. Rocio A. Diaz-Chavez, SEI, Kenya   |
|                                   | Session Keynote: Efficiency of Utilisation of Wastewater sludge in Agriculture Supporting Circular Economy, Prof. Hosam E.A.F. Bayoumi Hamuda, Óbuda University, Budapest, Hungary  | Keynote Speech: Prof. Philip Davies, Birmingham University, UK  INDIA H20 project at PDPU, Prof. Anurag Mudgal, PDPU, India   | Keynote: A bioeconomy strategy and synergies with circular economy for Eastern Africa. Dr. Rocio Diaz-Chavez, SEI, Kenya Keynote: Dr. Ivar Virgin, SEI, Sweden   |
|                                   | Session Keynote: Plastic waste management in Hungary, Dr. Farkas, Hilda, Hungarian Consulate office in India  | FO with biomimetic membranes towards resource recovery from urban wastewater and landfill leachate, Isaac Fernández, SaínzaArufe, Cristina Martínez, CETIM,   | Fibre Based Bio-plastics a sustainable replacement to fossil-based plastics and their role in fostering the growth of the circular economy, Mr Dennis Ssekimpi, HyA Bioplastics, Uganda  |
|                                   | Session Keynote: Thermal decomposition in waste management - legal obstacles to practical implementation in EU practice, Jozsef Kovacs, Felso-Bacska Storage Windpark Limited Liability Company; Hungary  Environmental analytics in the Hungarian waste  | ParqueEmpresarial de Alvedro, Spain  INDIA H20 project at Delft, Prof. Gabriela Quesada, Netherlands  Business model of a wastewater treatment  | Bio-Processes applied to Industrial Waste Remediation, Prof Karoli Njau, BioConversion Technology Africa Company Limited, Tanzania Current state of the Affairs of waste management and Prospects in Circular Economy- A case of Juba City, South Sudan, Dr. Clara Lumori, Hai |

|                                | management practices. , Dr.CsabaÁgoston, chemist, professor in chemical analysis.  Waste polymer recycling by high temperature process: opportunity for hydrogen production and for less CO2 emission, Norbert Miskolczi, University of Pannonia, Veszprém, Hungary  Vegetable oils for the modification of polylactic acid: opportunities and challenges, Bianka Nagy, Norbert Miskolczi, University of Pannonia, Veszprém, Hungary  QA and Chair's Summary | plant in India referring to INDIA H2O project, Sadhan K Ghosh, &KrishanuHait, Jadavpur University, India  Business Models and DST for Wastewater project INDIA H2O, Prof. P. K. Dey, Aston University, UK  Aquaporin Presentation (tbc)  QA and Chair's Summary | Mayo Residential Area, Juba, South Sudan, South Sudan.  Prospect of circular economy: Opportunities & Challenges in Ethiopia, Dr Tekkle and Kassahum, Ethiopia  Circular Economy of Agriculture Wastes in Plastic alternatives for Food Packaging, M. A. Sorour, M. M. Helmy, A. S. ElMahrouky, A. S. Elnawawy, Salwa R. Mostafa, FTTRI, ARC, Egypt and Chemical Engineering Department, Faculty of Engineering, Cairo University, Egypt  Transitioning South Africa towards a Waste to resource Circular Economy, Prof. Cristina Trois, University Kwazulu Natal, South Africa  Towards a Circular Economy: A Sustainable Solid Waste Management System for Airports, BUPE.G. MWANZA, Zambia.  Circular Economy Innovations: Quantity of Faecal Sludge in Lusaka for Resource Recovery – A possible key to Zambia's Deforestation Problem?  Dr. Flora K. Chitalu, R. Eng, MEIZ, Department of Mechanical Engineering, School of Engineering, The University of Zambia, Zambia  QA and Chair's Summary |
|--------------------------------|--|---|--|
| 7/12/2020                      | HALL 1 [Click to join]   | HALL 2 [Click to join]  | HALL 3 [Click to join]   |
| <b>7/12/2020</b> 11.00 – 13.00 | Technical Session (TS) – 19 Climate Change,<br>/Circular economy/bio energy  | Technical Session (TS) - 20:<br>Wastewater/waste management   | Technical Session (TS) - 21: Hazardous and<br>Industrial Wastes/wastewater/waste management  |
|                                | Chairs: Prof. Soma Mukherjee and<br>Prof. Apurba Ghosh, India  | Chairs: Prof. B. C. Meikap IIT KGP and<br>Prof. Amit Hazra, Biswabhrati, India  | Chairs:  |
|                                | Concentration of sucrose solution by Air Stripping in Rotating Packed bed, Moumita Sharma, Avijit Bhowal, Siddhatha Datta,India  | Keynote speech on 10th international conference on sustainable management towards circular economy by Dr. Indra   |  |

Mitra, Director CAMBI, India Environmental analytics in the Hungarian waste management practices, Dr. Csaba Ágoston, Keynote speech by Biswajeet Shown, Chemist, Hungary Reliance India ltd. Waste water management in USA, T. K. DAS et al, St. Martins University, USA The Role of Automation in Eco-Industrial Park Development in Russia, Yaroslavtsev D, Russia. Highly Cost-effective Cryogenic Capture of Industrial Emissions for Clean Energy-Parametric optimization for regeneration of Environment.Sadhan K Ghosh. Idowu waste lubricating oil by CCD approach, Oduniyi, Nigeria. Sayantan Sarkar, Deepshikha Datta, Bikash Kumar Mondal, Bimal Das, India Effect of the electrode on the treatment of coconut industry effluent using Microbial Fuel Cell, Sanju Sreedharan, Dr. Renu Pawels, Kerala, India Green synthesis of gold nanoparticles using Oldenlandiacorymbosa plant extract, K S Deepak, Deepshikha Dutta, Bimal Das, India Waste water treatment and resource circulation in the East Africa Community (EAC), Amb. Prof. Michael koech and k.j.munene, Kenyatta university, Kenya. Dena NanoTech Limited, Dr. Smarajit Roy,, USA Design and Fabrication of a Novel Triphasic Anaerobic Bioreactor for the Co-treatment of Organic Municipal Solid Waste and Slaughterhouse Waste, Atun Roy Choudhury, P. Sankar Ganesh, Prasenjit Mondal, Namita Banka, Rajarshi Banerjee, Hyderabad, India OA and Chair's Summary 7/12/2020 **Recess** Recess Recess 13.00-13.30

|                                | HALL 1 [Click to join]   | HALL 2 [Click to join]           | HALL 3 [Click to join]                 |
|--------------------------------|--|----------------------------------|--|
| <b>7/12/2020</b> 13.30 – 15.00 | Special Session(SS-13): Waste Recovery and Circular Economy in Petroleum and petrochemical industries: | Technical Session (TS) – 22: SWM | Technical Session (TS) –23: Bio energy |
|                                | Chairs: Mr. J. P. Sinha, ED, Pipelines Divn., ER, IOC Ltd. and   | •                                |  |
|                                | Speakers to be announced later<br>QA and Chair's Summary   |                                  |  |
| <b>7/12/2020</b> 14.30 – 15.45 | HALL 1 [Click to join]   | HALL 2 [Click to join]           | HALL 3 [Click to join]                 |
|                                | Standby sessions   | Standby sessions                 | Standby sessions                       |
| <b>7/12/2020</b> 16.00 – 17.30 | HALL 1 [Click to join]   |                                  |  |
|                                | Valedictory: Presentation of Chair's Summary, Awards Ceremony;   |                                  |  |
|                                | Announcement of 11 <sup>th</sup> IconSWM-CE 2021   |                                  |  |

## International Society of Waste Management, Air and Water (ISWMAW)

(Registered under the Waste Bengal Societies Registration Act, XXVI, 1961, No. S/1L/80049 of 2011-12); Email: iswmaw@gmail.com; Web site: www.iswmaw.com;

**CONTACT**: <u>iswmaw@gmail.com</u>; Website: <u>www.iswmaw.com</u>

### Main Objectives of the ISWMAW:

- 1. The International Society of Waste Management, Air and Water will promote environmentally sound solid waste management practices, effluent treatment practices, Air and Water pollution control practices, general environment protection awareness etc. to achieve sustainable Development
- 2. The ISWMAW will support research, policy instruments, implementation and awareness generation on Sustainable Development Goals 2030.
- 3. The International Society of Waste Management, Air and Water will be involved in educating the management groups, process owners, Ragpickers & waste handlers, SHG, adult poor, school children and college going students and others through training, awareness and technical assistance.
- 4. International cooperation and collaboration in building technological and organizational expertise to make the developing cities and municipalities self-reliant in dealing with the growing generation of municipal solid waste, including new emerging waste streams such as electronic waste (E-waste), plastic waste, Bio Medical waste, construction and demolition waste, and household hazardous waste and industrial hazardous wastes and encouraging lower

- materials consumption and resource circulation.
- 5. Development of Solid waste management, Air and Water quality monitoring and management as a profession.
- 6. Organising the flagship programme, the International Conference on Solid Waste Management and Exhibition (IconSWM), in different parts of the country and abroad for generating awareness.
- 7. Research and development in solid waste management, recycling, Waste-to-energy, Bio-fuels, Air and Water management & technology, water harvesting, Ground Water and drinking Water, LCA, Carbon Footprints, Climate Change and related social aspects.
- 8. Involving in activities related to Standardization, LCA, Green House Gas (GHG) Emission, Carbon Footprints and other sustainability issues and Development of a Policy and framework on Waste Management, Air and Water management.
- 9. Involving civic bodies and concerned NGOs working in this field for effective implementation of the National policy.
- 10. Support and encourage the private sectors, Academia, Universities, R &D Institutions, Small & Medium Sized Enterprises (SME)s, NGOs, community based organizations (CBOs), informal sector, development banks, and other stakeholders to collaborate with cities and municipalities in developing and implementing sustainable waste management strategies and projects.
- 11. Improvement and formulation in legislation and its enforcement in the field of Waste Management, Air and Water management with specific law to impose accountability on Realty and other industries responsible for generating wastes and incorporating air and water management.
- 12. Awareness & community involvement Organising effective awareness programmes at all levels across all community to achieve the level of awareness. To help promote awareness in the society in order to uplift moral standards by teaching adults and children alike the need for ascribing to higher standards to as to produce a cleaner, better and healthier society and be able to incorporate the pollution control measures.
- 13. To create awareness & opportunity among the men and women belonging to low socio-economic condition in the rural and slums areas by organizing different awareness programmes & trainings to find out their own talents and resources within themselves to fight against their own poverty.
- 14. Professional recognition nationally and internationally and to get affiliation to the International Solid Waste Associations. Development of expertise in the above areas.
- 15. Organizing Training Courses, workshops, seminars, symposiums, conference, and exhibitions on these issues.
- 16. Publishing books, journals, periodicals and reports on related issues and distribute those on sale. To encourage and support writing research articles and publication on various contemporary issues.
- 17. Playing a leading role and coordinating role in bringing practitioners, users, scientists, technologists, administrators and community together to collaborate on the continuous improvement and harmonization of framework, terminologies, methodologies and implementation related to Solid & liquid Waste, Air and Water management.
- 18. To encourage projects in maintaining, manage or partner to society developmental works and to open centres and /or Chapters of the society in various parts of the country and abroad for propagation of awareness, knowledge and cooperation.
- 19. To setup, establish, maintain and manage centers for the study of sociology, psychological counseling, handicraft and other subjects of interest for community development and to initiate and promote advance technologies in concerned areas.
- 20. To quit assistance for the un-employment young men and women belonging to low socio-economic condition In the Rutland slums by organizing different vocational training programme and launching different innovative self-help group (SHG) supporting plans and programmes for unprivileged people

### Major Activities performed since 2009

International Conference on Solid Waste Management (IconSWM) is the flagship programme of the International Society of Waste Management, Air and Water (ISWMAW) to promote environmentally sound solid waste management practices, effluent treatment practices, Air and Water pollution control practices, general environment protection awareness etc. in India and abroad for mass awareness and evolving collaborative research for effective waste management and environment protection. Following are the details of previous IconSWM Conferences. The International Conference on Solid Waste Management (IconSWM) has been renamed as International Conference on Solid Waste Management towards Circular Economy (IconSWM-CE) to promote the concepts and implementation strategies of Circular Economy and resource efficiency as a part of SDG 2030.

| Conference & Date                 | Venue   | Organizers  | No of Delegates &                 |
|-----------------------------------|---|---|-----------------------------------|
|                                   |   |   | Countries                         |
|                                   | Jadavpur University, Koljat, West Bengal, India.  | ISWMAW, CSD&REM, Jadavpur University; CST IISc.,          | Expected: 700, delegates from     |
| 02-07,'20 On Virtual Platform     | On Virtual Platform                               | UNCRD, IPLA,  | 44 Countries.                     |
| 9th IconSWM 2019; Nov 27-30, 2019 | KIIT, Bhubaneswar, Odisha, India.                 | ISWMAW, KIIT, OSPCB, CQMS, Jadavpur University; CST       | 550 Delegates                     |
|                                   |   | IISc., UNCRD, IPLA, UNIDO,                                | from 21 Countries.                |
| 8th IconSWM 2018                  |   | ISWMAW, CQMS, Jadavpur University; CST IISc., Swachh      | Expected: 855, Delegates From     |
| Nov 24-27, 2018                   |   | Andhra corporation (SAC), APPCB; UNCRD, IPLA, UNIDO, UNEP | 29 Countries.                     |
|                                   |   | ISWMAW, CQMS, Jadavpur University; CST IISc., TERI;       | 800 Delegates, from 27 Countries. |
| Dec 15-17, 2017                   | Hyderabad, Telangana, India.                      |   |                                   |
| 6th IconSWM 2016                  | Jadavpur University, Kolkata, India.              | ISWMAW; CQMS, Jadavpur University,                        | 557 Delegates                     |
| Nov 24-26, 2016                   |   | CST, IISc, IIT Kgp, TERI, CRIC, Kolkata.                  | From 23 Countries.                |
|                                   | National Science Seminar Complex, Indian          |   | 500 Delegates                     |
| Nov 24-27, 2015                   | Institute Of Science, Bangalore, India.           | Bangalore; CQMS, Jadavpur University,                     | From 21 Countries .               |
| 4th IconSWM 2014                  | <b>3</b>  | Department of UD.Govt. of Andra Pradesh                   | 1200 Delegates                    |
|                                   | Rajendranagar,Hyderabad, Andra<br>Pradesh, India. | CQMS, Jadavpur University; ISWMAW;                        | From 17 Countries.                |
|                                   | Infosys Campus, HI Area, Mysore, Karnataka,       | Mysore City Corporation, Mysore;                          | 1400 Delegates                    |
| July 30-Aug 1, 2012               | India.  | ISWMAW; CQMS, JU.   | From 11 Countries.                |
| 2nd IconSWM 2011                  | ,           | CQMS, Jadavpur University, Kolkata. & ISWMAW              | 500 Delegates                     |
| Nov 7-9, 2011                     | Kolkata,India.                                    |   | From 11 Countries .               |

| 1st IconSWM 2009                           | Netaji Indoor Stadium & Khudiram Anusilan | CQMS, Jadavpur University, Kolkata; ISWMAW; | 700 Delegates From10 Countries. |
|--|---|---|---------------------------------|
| 4 <sup>th</sup> -6 <sup>th</sup> Nov. 2009 | kendra, Kolkata, India.                   | Municipalika; .                             |                                 |
| 4 -0 1NOV. 2003                            |   |   |                                 |

As of now, delegates from most of the states in India and the several countries who participated in different IconSWM are, Australia, Australia, Bangladesh, Bhutan, Brazil, China, Egypt, France, Georgia, Germany, Huntington, Hong Kong, Italy, Israel, Japan, Kuwait, Lebanon, Malaysia, Mayanmer, Mauritius, Nepal, New Zealand, Nigeria, Netherlands, Portugal, Philippines, Rep. of Arab Emeritus, Rep of Korea, Russia, Serbia, South Africa, Soudi Arabia, Singapore, Sri Lanka, Sweden, Thailand, Taiwan, UK, USA, Vietnam etc.

### Glimpses of some of the activities

## Webinars organized by ISWMAW in 2020

| Date              | Title  | Participation & Collaborators / Join Organisers  |
|-------------------|--|--|
| Nov 20<br>2020    | Carbon Technology  | CSD&REM, ISWMAW  |
| Sept. 30<br>2020  | I, IconSWM-Asia and the Pacific Connect Webinar: Circular Economy and Waste Management under pandemic COVID-19             | UNCRD, IPLA, India: CSD&REM Jadavpur University, CST, Indian Institute of Science, Bangalore; Consortium of Researchers in International Collaboration (CRIC) A few more organization to be decided  |
| Sept 18<br>2020   | IconSWM-India-Vietnam Connect Webinar :<br>Circular Economy and Waste Management<br>under pandemic COVID-19                | Participation: 350 from 12 countries; UNCRD, IPLA, Vietnam: HUST and ISPONRE, India: CSD&REM Jadavpur University and CST, Indian Institute of Science, Bangalore, Consortium of Researchers in International Collaboration (CRIC)  |
| Sept 10<br>2020   | Resource Circulation and Waste Management under pandemic COVID-19  | Participation: 300 from 14 countries UNCRD, Philippines: University of Santo; Tomas, Adamson University Manila, Central Bicol State University of Agriculture, Vietnam: Vietnam National University of Agriculture, India: CSD&REM Jadavpur University, CST, Indian Institute of Science, Bangalore, Consortium of Researchers in International Collaboration (CRIC) and NIT Durgapur,   |
| August 11<br>2020 | , IconSWM-India-Nigeria Connect Webinar :<br>Resource Circulation and Waste Management<br>under pandemic COVID-19          | Participation: 850 from 15 countries  Nigeria: University of Ilorin, Covenant University, Lagos State Environmental Protection Agency, (LSEPA), Nigerian Institution of Environmental Engineers, (NIEE), Lower Niger River Basin Development Authority, (LNRBDA), The Nigerian Institute of Mechanical Engineers, (NIME), Nigeria Society of Chemical engineers and Association of Professional Women Engineers of Nigeria (APWEN)  India: Centre for Sustainable Development and Resource Efficiency Management, Jadavpur University; Consortium of Researchers in International Collaboration (CRIC) and CST, Indian Institute of Science, Bangalore |
| July 02<br>2020   | <ul><li>Webinar: Waste Management in post COVID-<br/>19 Situation in South Asian Countries</li></ul>                       | Participation : 430 from 22 countries SACEP, and IGES  |
| June 05<br>2020   | World Environment Day (WED) Webinar :<br>Biodiversity and Environmental Protection<br>during Pandemic Outbreak of COVID 19 | Participation : 1145 from 26 countries UNCRD, SACEP, IPLA and , Jadavpur University, Consortium of Researchers in International Collaboration (CRIC)   |

Research Project

- 1. **Funded Research Projects to Prabhu Jagatbandhu College 2018 : India :** Waste Management: A Municipal Level Study in West Bengal for assessing 3R concept implementation in the JAICA SWM project; **Partners :** Prabhu Jagatbandhu College, Andul, Howrah, ISWMAW and CQMS, Jadavpur University, West Bengal **Collaborators :** Uttarpara, Konnagar, Rishra, Sreerampore, Champadani and Vaidyabati in Hooghly district, West Bengal. Jointly funded by ISWMAW and Prabhu Jagatbandhu College.
- 2. **Research Projects 2017**: Projects will be identified and evolved on, waste quantification, Occupational Health Hazards of waste handlers, implementation of social welfare schemes for waste handlers, EPR Implementation and Review of Swachh Survekshan Report of SBM.
- 3. **International Collaborative Research Project on Circular Economy 2018-2021 :** CRIC and ISWMAW taken up the research project with 10 countries to assess the CE implementation in different countries and develop publication during 2018-2021. Researchers from 10 countries agreed to work voluntarily.
- 4. International collaborative Research Projects 2016: BRICS E-waste Project (up to July 2019): "Waste electrical and electronic equipment management and Basel Convention compliance in Brazil, Russia, India, China and South Africa (BRICS) nations". Collaborative research project with individual funding; Lead Partner: Department of Mechanical Engineering, Jadavpur University, India; Other Partners: BCRCAP, Tsinghua University, BCRC, China; Dept of Civil, Env & Arch Engineering, University of Colorado, USA; State Dept of City Management, Saint-Petersburg State University of Economic, RussiaN Federation; School of Env. Sciences, University of Venda, South Africa: Innovarelab Pesquisa e Consultoria, São Paulo, Brazil.
- 5. **International collaborative Research Projects 2016 : India and China** Collaborative Research Project on *E-waste Management* (October 2016 October 2019): Jadavpur University and Tsinghua University, Beijing, China.
- 6. **Bio gas Plant at MCC 2015 :** Bio gas Project in Mysore City Corporation in 2014-2015.
- 7. Research Project at IISc., Bangalore 2015-2017: Research Project on SWM in CST, IISc Bangalore in 2014-2016.
- 8. **International collaborative Research Projects 2015:** "Global Waste Management, Resource Circulation and 3R" (March 2016 March 2020); Principal Investor in India Prof Sadhan Kumar Ghosh: Lead Partner:
- a. **India**; Jadavpur University; Collaborative Partners and respective country Lead: 2. **Australia**; Griffith University, Griffith School of Engg, Queensland, 3. **Egypt,** University of Cairo; 4. **Germany,** Rostock University; 5. **Italy,** LAR<sup>5</sup> Laboratory Dipartimento di Ingegneria, University of Perugia, Perugia; 6. **Rep. of Korea,** Kyonggi University. 7. **South Africa-** The Cape Peninsula University of Technology, Cape Town; 8. **Thailand,** AIT; 9. **USA,** Widener University. Lead Supporting Organisation/Society: 10. International Society of Waste Management, Air and Water (ISWMAW) and 11. Consortium of Researchers in International Collaboration (CRIC).
- 9. International collaborative Research Projects: India & Italy 2016: Collaborative Research Project on "Sustainable Development Goals Realisation in Global Perspective" (June 2016 December 2019): Partners: Jadavpur University, India; LAR<sup>5</sup> Laboratory Dipartimento di Ingegneria, University of Perugia, Perugia, Consortium of Researchers in International Collaboration (CRIC) and International Society of Waste Management, Air and Water (ISWMAW).

#### **Publications**

- 1. Circular Economy: Global Perspective, Editors: Ghosh, Sadhan Kumar (Ed.)/ Outcome of the research project on Circular Economy contributed by 21 countries | Springer 2020
- 2. Emerging Technologies for Waste Valorization and Environmental Protection, Editors: Ghosh, S.K., Bhattacharya, C., Satyanarayana, S.V., Varadarajan, S. (Eds.) | Springer 2018
- 3. IconSWM Proceedings: The 1st IconSWM 2009 to 9th IconSWM-CE 2019 proceedings have been published each year and released on the day of the Conference.
- 4. Solid Waste Policies and Strategies: Issues, Challenges and Case Studies, Editors: Ghosh, Sadhan Kumar (Ed.) | Springer 2019

- 5. Recent Trends in Waste Water Treatment and Water Resource Management, Springer 2019
- 6. Waste Management as Economic Industry Towards Circular Economy, Editors: Ghosh, Sadhan Kumar (Ed.), | Springer 2019
- 7. Energy Recovery Processes from Wastes, Editors: Ghosh, Sadhan Kumar (Ed.) | Springer 2018
- 8. Waste Management as Economic Industry Towards Circular Economy, DOI: 10.1007/978-981-15-1620-7, published in March 2020, Springer Nature Publication; ISBN 978-981-15-0532-4;
- 9. Urban Mining and Sustainable Waste Management, https://www.springer.com/gp/book/9789811505317, published in March 2020, Springer Nature Publication; ISBN: 978-981-15-1620-7;
- 10. Special Issue of WM&R Journal: Published in 9th IconSWM-CE 2019. Springer Book: "Utilization and Management of Bioresources" has been published with 30 selected papers in September 2017 out of the papers presented in 6th IconSWM 2016. http://www.springer.com/in/book/9789811053481.
- 11. Circular Economy and Fly Ash Management, Springer Nature, 25-Oct-2019 Science 160 pages Springer 2019
- 12. Solid Waste Policies and Strategies: Issues, Challenges and Case Studies, Springer Nature, 10-Mar-2020 Science 221 pages Springer 2018
- 13. Sustainable Waste Management: Policies and Case Studies, 7th IconSWM—ISWMAW 2017, Volume 1, Editors: Ghosh, Sadhan Kumar (Ed.) | Springer 2018
- 14. Waste Management and Resource Efficiency, Proceedings of 6th IconSWM 2016, Editors: Ghosh, Sadhan Kumar (Ed.) | Springer 2019.
- 15. Utilization and Management of Bioresources, Proceedings of 6th IconSWM 2016; Editors: Ghosh, Sadhan Kumar (Ed.), | Springer 2018.
- 16. Springer Book: "Waste Management and Resource Circulation" is in the process of publication with 122 selected papers expected to be released in December 2017- January 2018 out of the papers presented in 6th IconSWM 2016.
- 17. ELSEVIER Journal Publication: 104 selected Papers from 5IconSWM 2015 have been published in Procedia Environmental Sciences (ELSEVIER) in August 2016. Please refer the link. http://www.sciencedirect.com/science/journal/18780296/35.

#### IconSWM Excellence Awards

IconSWM Excellence Awards have been given to the researchers for significant papers, to municipalities, Temples and industries for their significant achievement in waste management fields in each of the IconSWMs.

#### IconSWM Lifetime Achievement Awards

The award has been instituted from 2018 to recognize and honour the individual for significant contribution in the areas of waste management worldwide.