

## 2019-2020

| S. No | File No.                       | Title of Project   | PI Name & Institution Address  | Duration | Project cost |
|-------|--------------------------------|--|--|----------|--------------|
| 1     | DST/TMD(EWO)/OWUIS-2018/RS-01  | Ultra-low water pre-tanning and post-tanning technologies for leather making   | Dr. P. Thanikaivelan<br>Advanced Materials Laboratory<br>CSIR-Central Leather Research Institute(CSIR-CLRI), Adyar, Chennai-600 020 (Tamil Nadu)   | 2 Years  | 36,66,124    |
|       |                                |  | M/s Bharath Enterprises<br>43, Anna Avenue, Vellore Dist. Ranipet-632 401 (Tamil Nadu)   |          |              |
| 2     | DST/TMD (EWO)/OWUIS-2018/RS-02 | Dark-catalytic and planar solar-concentrator based reactors for removal of organic pollutants from textile effluents | Dr. Satyajit Vishnu Shukla<br>Materials Science and Technology Division (MSTD)<br>CSIR-National Institute for Interdisciplinary Science and Technology (NIIST)<br>Thiruvananthapuram, Kerala-695 019 | 2 Years  | 45,10,080    |
| 3     | DST/TMD (EWO)/OWUIS-2018/RS-03 | Brine splitting for energy efficient textile dyeing effluent reuse   | Dr. Jaichander Swaminathan<br>Department of Mechanical Engineering<br>Indian Institute of Technology- Gandhinagar, Gujarat- 382 355  | 2 Years  | 33,61,202    |
|       |                                |  | S P Textile Processors Pvt. Ltd.<br>SF No. 54/2B, Kumilamparappu, Perumal Malai Koil   |          |              |

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|   |                                       |  | Road, (Off NH 47),<br>Near Aavin Milk<br>Dairy, Chithode –<br>638 102, Erode Tamil<br>Nadu   |         |           |
| 4 | DST/TMD(EW<br>O)/OWUIS-<br>2018/RS-04 | Bulk scale sustainable salt<br>free exhaust dyeing on<br>cationized cotton knit<br>fabrics   | Dr. V. R. Giri Dev,<br>Department of<br>Textile Technology,<br>Anna University,<br>Chennai, Tamil<br>Nadu-600 025  | 2 Years | 27,66,060 |
| 5 | DST/TMD<br>(EWO)/OWUIS-<br>2018/RS-05 | Developing of bio-<br>inspired transition metal<br>complex for efficient<br>degradation of industrial<br>dyes in waste water under<br>environment friendly<br>conditions | Dr. Arnab Dutta<br>Department of<br>Chemistry<br>Institute of<br>Technology-<br>Gandhinagar, Palaj<br>Campus, Gujarat-382<br>355                                     | 2 Years | 46,10,720 |
|   |                                       |  | Jindal Worldwide<br>Limited<br>Opp. D Mart, IOC<br>Petrol Pump lane<br>Shivranjani-shyamal<br>132 ft. Ring Road<br>Ahmedabad-380 015<br>(Gujarat)                    |         |           |
| 6 | DST/TMD(EW<br>O)/OWUIS-<br>2018/RS-06 | Photofunctional materials<br>for industrial dye<br>mineralization  | Dr. Dipti P. Das<br>Department of<br>Colloids and<br>Material Chemistry<br>CSIR-Institute of<br>Minerals & Materials<br>Technology<br>Bhubaneswar Odisha<br>-750 013 | 2 Years | 41,10,440 |
|   |                                       |  | Sambalpuri<br>Bastralaya<br>Handloom Co-<br>operative Society Ltd<br>AT/PO/DIST:-<br>Bargarh, HT&H<br>Dept.,<br>Govt. of Odisha –<br>768 028                         |         |           |
| 7 | DST/TMD<br>(EWO)/OWUIS-<br>2018/RS-07 | HF and HCl mixed acid<br>recovery from silicon<br>carbide purification   | Dr. A Manokaran<br>Process Engineering<br>Division   | 2 Years | 28,96,560 |

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|   |                                | process effluent via diffusion dialysis and bipolar membrane electro-dialysis                               | CSIR-Central Electro Chemical Research Institute<br>Karaikudi,<br>Tamilnadu-630 003  |         |           |
|   |                                |   | Carborundum Universal Limited,<br>Electro Minerals Division<br>P.B. NO. 1,<br>Kalamassery<br>Development Plot P. O.<br>Kochi-683 104<br>(Kerala) |         |           |
| 8 | DST/TMD(EW O)/OWUIS-2018/RS-08 | Carbon quantum dots from microalgae for organic dyes degradation in industrial waste water-A novel approach | Dr. M. Chamundeeswari,<br>Department of Biotechnology, St. Joseph's College of Engineering,<br>Sholinganallur,<br>Chennai, Tamil Nadu-600 019    | 2 Years | 28,75,816 |
|   |                                |   | Mr. Sivasankar<br>Environmental Science Department<br>Shibin Exports, Old Perungalathur,<br>Chennai<br>Tamil Nadu-600 063                        |         |           |
|   |                                |   | Shibin Exports<br>#29/7, chelliamman koil st.<br>Manavalan nagar,<br>old perungalathur<br>Chennai, Tamil Nadu-600 063                            |         |           |
| 9 | DST/TMD(EW O)/OWUIS-2018/RS-09 | Treatment of industrial organic raffinate by coupling of catalytic wet air oxidation and biological process | Dr. Anil K. Saroha,<br>Department of Chemical Engineering, Indian Institute of Technology, Delhi   | 2 Years | 38,60,696 |
|   |                                |   | Jubilant Lifesciences Ltd.,<br>Noida   |         |           |

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| 10 | DST/TMD (EWO)/OWUIS-2018/RS-10 | Coupled advanced oxidation and membrane bioreactor technology for removal of organics to facilitate recycling of wastewater in a polyethylene terephthalate plant | Dr. Makarand Madhao Ghangrekar<br>Civil Engineering Department<br>Indian Institute of Technology<br>Kharagpur-721 302  | 2 Years | 41,56,400 |
|    |                                |   | IVL Dhunseri<br>Petrochem Industries Pvt. Ltd<br>Dhunseri House 4K,<br>Woodburn Park<br>Kolkata – 700 020  |         |           |
| 11 | DST/TMD(EWO)/OWUIS-2018/RS-11  | Electro spun solvent sintered anion exchange membrane for acid recovery from industrial effluents   | Dr. Rajaram Krishna Nagarale,<br>Department of Electro-Membrane Processes Division,<br>Central Salt and Marine Chemicals Research Institute,<br>Bhavnagar, Gujarat-364 002 | 2 Years | 35,76,960 |
|    |                                |   | Dr. Sandeep Patil<br>E-Spin Nanotech Pvt. Ltd.<br>D-107, SIIC<br>Extension, SIDBI Incubation Center<br>Indian Institute of Technology-Kanpur<br>Kanpur-208 016 (UP)        |         |           |
| 12 | DST/TMD (EWO)/OWUIS-2018/RS-12 | Development of a novel single-stage bioremediation technology for azo dye and aromatic amine aiming for industrial sustainability and environmental safety        | Dr. Vandana Mishra<br>Department of Environmental Studies, University of Delhi<br>University Road,<br>Delhi-110 007  | 2 Years | 41,03,257 |
|    |                                |   | Saraswati Dyers Pvt. Ltd.<br>Plot No. 200, Sec-29<br>Part-II, HUDA<br>Panipat – 132103 (Haryana)   |         |           |

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| 13 | DST/TMD(EW O)/OWUIS-2018/RS-13 | Preparation of expanded graphite/polyaniline nanocomposite filter for treatment of pesticides and heavy metals from industry water: A green technology based approach for waste absorption | Dr. Bishnu Prasad Panda, Department of Manufacturing Engineering, Central Institute of Plastics Engineering and Technology, Bhubaneswar, Orissa-751 024 | 2 Years | 21,48,484 |
|    |                                |  | Praman Engineers<br>P.O – Todanga, Via-<br>Barikpur Bazar<br>Dist-Bhadrak<br>(Odisha) – 756 112   |         |           |
| 14 | DST/TMD(EW O)/OWUIS-2018/RS-14 | Design and development of photocatalytic membranes for simultaneous water disinfection and filtration  | Dr. Sakar Mohan<br>Center for Nano Science and Material Science<br>Jain University, Jain global campus,<br>Karnataka-562 112                            | 2 Years | 52,95,692 |
|    |                                |  | Tech Inc.<br>32, 3 <sup>rd</sup> main road,<br>Indian bank colony<br>Ambattur, Chennai-<br>600 053<br>(TamilNadu)                                       |         |           |
| 15 | DST/TMD(EW O)/OWUIS-2018/RS-15 | Utilizing the versatile platform of biomass derived nanocellulose based magnetic nanocomposites for the facilitative removal of organic pollutants from wastewater                         | Dr. Sonal Singhal,<br>Department of Chemistry, Panjab University,<br>Chandigarh- 160 014  | 2 Years | 52,28,323 |
|    |                                |  | Dr. Anupama Sharma (Co-PI)<br>Professor, SSB University Institute of Chemical Engineering and Technology, Panjab University,<br>Chandigarh              |         |           |
|    |                                |  | Shivalik Agro-Poly Products Ltd.<br>Plot No. 1, Sector-3,<br>Industrial Area,<br>Distt. – Solan,<br>Parwanoo (H.P)-<br>173220                           |         |           |

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| 16 | DST/TMD(EW O)/OWUIS-2018/RS-16 | Visible light photocatalysis assisted ballast water treatment and management against marine bio invasion.  | Dr. Komathy K<br>Department of Information Technology<br>Academy of Maritime Education and Training<br>135, Kanathur, East Coast Road<br>Chennai, Tamilnadu-603 112 | 2 Years | 60,22,040 |
|    |                                |  | Choudary Technical Ship Services Pvt. Ltd<br>No. 72, Moore street, 2nd floor, Room no. 3<br>Chennai-600 001   |         |           |
| 17 | DST/TMD(EW O)/OWUIS-2018/RS-17 | Integrated hydrodynamic cavitation - membrane distillation technology for enhanced water recovery from industrial effluent   | Dr. Gautham B. Jegadeesan,<br>School of Chemical & Biotechnology<br>SASTRA Deemed To Be University<br>Thanjavur,<br>Tamilnadu, 613401                               | 2 Years | 49,91,672 |
|    |                                |  | Dr. Noel Jacob<br>Kaleekkal,<br>Department of Chemical Engineering<br>National Institute of Technology<br>Calicut (NITC),<br>India                                  |         |           |
|    |                                |  | Manali Petrochemicals Limited<br>Ponneri High Road,<br>Manali,<br>Chennai – 600 068   |         |           |
| 18 | DST/TMD(EW O)/OWUIS-2018/RS-18 | Sustainable resource recovery through optimal treatment and use of petroleum industry wastewater in an algal-bacterial biorefinery model (SUR <sup>3</sup> ESCOPE) | Prof. Ramkrishna Sen<br>Department of Biotechnology<br>Indian Institute of Technology-<br>Kharagpur,  | 2 Years | 50,61,484 |

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|    |                               |   | <p>Kharagpur, West Bengal – 721 302</p> <p>Prof. K. K. Pant<br/>Department of Chemical Engineering<br/>Petrotech Chair,<br/>Indian Institute of Technology Delhi,<br/>Hauz Khas,<br/>New Delhi 110 016</p> <p>Haldia<br/>Petrochemicals Ltd.<br/>Bengal Eco Intelligent Park,<br/>Tower 1<br/>Block EM, Plot No 3,<br/>Salt Lake City<br/>3<sup>rd</sup> &amp; 15<sup>th</sup> Floor ,<br/>Kolkata – 700 091</p>   |         |           |
| 19 | DST/TMD(EWO)/OWUIS-2018/RS-19 | Self-sustained system to clean industrial waste water and generate electricity simultaneously without any external source | <p>Dr. Suman<br/>Amity institute of advanced research and studies (Material &amp; Devices)<br/>E3-4<sup>th</sup> Floor, Amity university, sector-125<br/>Noida, Uttar Pradesh<br/>201303, India</p> <p>Dr. Rupesh Kumar Bansiwal<br/>Amity institute of advanced research and studies (Material &amp; Devices)<br/>Amity university, sector- 125<br/>Noida, Uttar Pradesh<br/>201303, India</p> <p>Dr. V. K Jain<br/>Amity institute of renewable and alternative energy &amp;<br/>Amity institute of advanced research and studies (Material &amp; Devices)</p> | 3 Years | 66,66,088 |

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|    |                                |  | E3-4 <sup>th</sup> Floor, Amity University, Sector-125<br>Noida, Uttar Pradesh<br>201303, India   |         |           |
| 20 | DST/TMD(EW O)/OWUIS-2018/RS-22 | Design and construction of amperometric catechol biosensor and investigations on analyte interferences for technology development to aid near-zero discharge of effluents to Indian water-body systems | Dr. B. Narasimha Murthy, Department of Chemistry, Basic Science & Humanities Division, CMR Institute of Technology, #132, AECS Layout, IT Park Road, Kundalahalli-PO, Bengaluru- 560037<br><br>Dr. E. S. Dwarakadasa Karnataka hybrid Micro devices Ltd. No. 103, 4th cross, Electronic city Phase-I, Bangaluru-560 100   | 2 Years | 38,08,816 |
| 21 | DST/TMD(EW O)/OWUIS-2018/RS-23 | Standalone forward osmosis for energy efficient and sustainable industrial wastewater treatment  | Dr. Pallabi Das, Natural Resource And Environment Management, CSIR-Central Institute of Mining And Fuel Research, Barwa Road, Dhanbad - 826001, Jharkhand<br><br>National Mineral Development Corporation (NMDC) Limited (A Govt. of India Enterprise) Research And Development Centre Uppal Road, Hyderabad-500007<br><br>M/s Tech Inc 32, III Main Road, Bank Colony Ambattur, Chennai- | 2 Years | 19,54,368 |



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|    |                                |  | 600053   |         |           |
| 22 | DST/TMD(EW O)/OWUIS-2018/TS-01 | Biotechnological process for the simultaneous removal of ammoniacal nitrogen and COD from industrial wastewater            | <p>Dr. A. Gangagni Rao, Bio-engineering and Environmental Sciences Group (BEES), Department of Energy and Environmental Engineering (DEEE), CSIR-Indian Institute of Chemical Technology (IICT)</p> <p>M/s SMS Pharmaceuticals Ltd, No.72, H. No.8-2-334/3 &amp; 4 Road No.5, Opp. SBI, Executive Enclave, Banjara Hills, Hyderabad-500 034 Telangana</p>  | 1 Year  | 54,65,491 |
| 23 | DST/TMD(EW O)/OWUIS-2018/TS-03 | Hydrogen powered desalination system using recycled aluminum: A novel process to extract potable fresh water from seawater | <p>Dr. Surender Kumar CSIR-Advanced Material and Process Research Institute-Bhopal Near Habibganj Naka, Hoshangabad Road, Bhopal Madhya Pradesh 462024</p> <p>Dr. Archana Singh - AMPRI</p> <p>Dr. M. S. Santosh Centre for Incubation, Innovation, Research and Consultancy (CIIRC) Jyothy Institute of Technology, Tataguni Off Kanakapura Road, Bangalore – 560082.</p> <p>Impact Engineering Solutions Pvt. Ltd.</p> | 3 Years | 95,56,517 |

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|    |                                      |   | #815, 2 nd Phase,<br>7 th Block, BSK<br>3 rd Stage<br>100 Feet Ring Road,<br>Bangalore – 560085  |         |           |
| 24 | DST/TMD(EW<br>O)/OWUIS-<br>2018/TS-4 | Pilot scale demonstration<br>of nanobubble technology<br>for chromium removal<br>from electroplating<br>industry effluent | Dr. R Selvakumar<br>Department of<br>Nanobiotechnology<br>PSG Institute of<br>Advanced Studies,<br>Avinashi Road<br>Coimabtoe-641004<br>(Tamil Nadu) | 3 Years | 65,87,764 |
|    |                                      |   | M/s Silver Crown<br>Enterprises,<br>S F 79/2f,<br>Karayamplayam,<br>Mylampatti,<br>Neelambur,<br>Coimbatore-641014<br>Tamil Nadu                     |         |           |