**Mechanical**

**Research Activity Report (Jan 2016- June 2016)**

**1.Research activities of the faculty members:**

|  |  |  |
| --- | --- | --- |
| Number of faculty in the Department | : | 39 |
| Number of faculty with Ph D qualification | : | 10 |
| Number of faculty pursuing Ph D | : | 15 |

**A). Papers published by the faculty members in National and International Journals:**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl. No.** | **Name of Faculty** | **Title of the paper** | | | | | **Name of the Journal** | | | **Date** |
|  |  |  | | | | |  |  |  |  |
| 1 | K.Pitchandi | Effect of particles density on holdup | | | | | ARPN Journal of | | | Jan 2016 |
|  |  | mass and heat transfer rate in solid | | | | |  |
|  |  | Engineering and | | |  |
|  |  | cyclone heat exchanger | | | | |  |
|  |  |  | | | | | Applied Sciences | | |  |
|  |  |  | | | | |  | | |  |
| 2 | N.Muthukrishnan | Study of the Effect of Matrix, Fibre | | | | | Arabian Journal for | | | Jan 2016 |
|  |  | Treatment and Graphene on | | | | | Science and Engineering | | |  |
|  |  | Delamination by Drilling Jute/Epoxy | | | | |  |  |  |  |
|  |  | Nanohybrid Composite | | | | |  |  |  |  |
| 3 | S.Saravanan |  | | | | | Renewable and | | | Jan 2016 |
|  |  | Use of higher alcohol biofuels in diesel | | | | | Sustainable Energy | | |  |
|  |  | Reviews |  |  |  |
|  |  | engines: A review | | | | |  |  |  |
|  |  |  |  |  |  |
|  |  |  | | | | |  |  |  |  |
| 4 | S.Saravanan |  | | | | | Fuel |  |  | Jan 2016 |
|  |  | Effects of iso-butanol/diesel and n- | | | | |  |  |  |  |
|  |  | pentanol/diesel blends on performance | | | | |  |  |  |  |
|  |  | and emissions of a DI diesel engine | | | | |  |  |  |  |
|  |  | under premixed LTC (low temperature | | | | |  |  |  |  |
|  |  | combustion) mode | | | | |  |  |  |  |
|  |  |  | | | | |  | |  |  |
| 5 | S.Saravanan | Effect of Isobutanol Addition to Diesel | | | | | Proceedings | | of | Jan 2016 |
|  |  | Fuel on Performance and Emissions of a | | | | | IMECHE, Part A-Journal | | |  |
|  |  | DI Diesel Engine with Exhaust Gas | | | | | of Power and Energy | | |  |
|  |  | Recirculation (EGR) | | | | |  |  |  |  |
|  |  |  | | | | |  |  | |  |
| 6 | S.Saravanan | Application of an enhanced Taguchi | | | | | Journal | of the Brazilian | | Jan 2016 |
|  |  | method for simultaneous | | | | | Society | of | Mechanical |  |
|  |  | reduction of smoke and NOx emissions | | | | | Sciences | | and |  |
|  |  | using oxygenated additives and retarded | | | | | Engineering | |  |  |
|  |  | injection timing in a stationary diesel | | | | |  |  |  |  |
|  |  | engine | | | | |  |  |  |  |
|  |  |  | | | | |  | |  |  |
| 7 | S.Saravanan | Factors Influencing NOx Emission of a | | | | | International | | Journal of | Jan 2016 |
|  |  | Stationary Diesel Engine Fuelled With | | | | | Sustainable Engineering | | |  |
|  |  | Crude Rice Bran Oil Methyl Ester | | | | |  |  |  |  |
|  |  | Blend –Taguchi Approach | | | | |  |  |  |  |
| 8 | M.Gajendran | Investigation of Performance and | | | | | International Journal of | | | March |
|  |  | Emission Characteristics using Low | | | | | Engineering Research & | | | 2016 |
|  |  | Reactivity Fuel and Biodiesel Blended | | | | | Technology | |  |  |
|  |  | Nanoparticles in Diesel Engine | | | | |  |  |  |  |
|  |  |  | | | | |  | | |  |
| 9 | A.Balasubramanian | Feasibility Study on Waste Heat | | | | | International Journal of | | | March |
|  |  | Recovery In IC Engine for Operating | | | | | Energy, Environment | | | 2016 |
|  |  | Triple Fluid Absorption Refrigeration | | | | | and Economics | | |  |
|  |  | System | | | | |  |  |  |  |
| 10 | M.Gajendran | Investigation on aluminium oxide nano | | | | | Journal of Chemical and | | | April |
|  |  | particles | blended | | diesel | fuel | Pharmaceutical Research | | | 2016 |
|  |  | combustion, performance and emission | | | | |  | | |  |
|  |  | characteristics of a diesel engine | | | |  |  | | |  |
| 11 | M.Gajendran | Heat transfer enhancement of thermic | | | | | Journal of Chemical and | | | April |
|  |  | fluid by using nanofluids in radiator | | | |  | Pharmaceutical Research | | | 2016 |
| 12 | S.Arumugam | Experimental | | and | mathematical | | Journal of Chemical and | | | April- |
|  |  | modeling in a DICI engine with various | | | | | Pharmaceutical Sciences | | | June 2016 |
|  |  | combustion chambers | | |  |  |  | | |  |

**B). Papers presented by the faculty members in National and International conferences/ symposiums/ workshops:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sl. No.** | **Name of Faculty** | **Title of the paper** | **Name of the** | **Date** |
|  |  |  | **Conference/** |  |
|  |  |  | **symposium/** |  |
|  |  |  | **workshop** |  |
|  |  |  |  |  |

**C). National and International Conferences/ symposiums/ workshops attended by the Faculty members :**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl. No.** | **Name of Faculty** | **Name of the Conference/ symposium/** | **Place** |  |  |  | **Date** |
|  |  | **workshop** |  |  |  |  |  |
| 1 | S Illayavel | Internatinal Conference on trends in | Tamizhan College of | | |  | 18 Feb |
|  |  | Computational Engineering & Technology | Engineering & Technology | | | | 2016 |
| 2 | M Gajendran | 2nd International Conference on | Karpagam College of | | |  | 20 Feb |
|  |  | Advancedn Engineering and Technology | Engineering | |  |  | 2016 |
|  |  | for Sustainable Development |  |  |  |  |  |
| 3 | A Kumaraswamy | 2nd International Conference on "Human | Saveetha | | School | of | 10 Mar |
|  |  | Computer Interactions" | Engineering | |  |  | 2016 |
|  |  |  |  | |  | |  |
| 4 | M Arul Kumar | International Conference on Computer, | Ranganathan | | Engineering | | 11 Mar |
|  |  | Electrical, Electronics, Management & | College | |  |  | 2016 |
|  |  | Information Technology |  |  |  |  |  |
| 5 | V Sridharan | 5th International Conference on Emerging | Saveetha | | Engineering | | 25 Mar |
|  |  | Trends in Design, Thermal and | College | |  |  | 2016 |
|  |  | manufacturing |  |  |  |  |  |
| 6 | A Kumaraswamy | Gear Shifting Using Dual Clutch | Shri | Krishna College | | of | 30 Mar |
|  |  | Transmission Technique in Wind Energy | Engineering | |  | and | 2016 |
|  |  | Conversion System | Technology | |  |  |  |
| 7 | J Sivaramapandian | 3rd National Conference on Research | PSR Engineering College | | | | 31 Mar |
|  |  | Advanced in Mechanical Engineering |  |  |  |  | 2016 |
| 8 | S.Gopinath | 3rd National Conference on Research | PSR Engineering College | | | | 31 Mar |
|  |  | Advanced in Mechanical Engineering |  |  |  |  | 2016 |
| 9 | S .Yeshwant Raj | 1st International Conference on Recent | St.Joseph's | | Institute | of | 29 Apr |
|  |  | Trends in Engineering & Technology | Technology | |  |  | 2016 |
|  |  |  |  |  | |  |  |
| 10 | S. Ponnuvel | National Conference on Processing and | SSN | College | | of | 6 May |
|  |  | Characterization of Advanced Engineering | Engineering | |  |  | 2016 |
|  |  | Materials (NCPCAEM 2016) |  |  |  |  |  |
|  |  |  |  | | |  |  |
| 11 | S.Natarajan | Energy Systems Conference | United Kingdom | | |  | 15 June |
|  |  |  |  |  |  |  | 2016 |

**2) Departmental research activities:**

**A). Symposium, Conferences, Workshop and Guest lectures Conducted:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sl.** | **Name of the Event** | **Place** | **Period** | **Funding** | **National/** | **Convener and** |
| **No.** |  |  |  | **Agency** | **International** | **Faculty In** |
|  |  |  |  |  |  | **charge** |
| 1 | Design of Experiments | SVCE | 22 &23 Jan | SVCE | National | S.Gopinath |
|  | (Industry) |  | 2016 |  |  |  |
| 2 | Green belt training (Students) | SVCE | 20 & 21 Feb | SVCE | National | S.Gopinath |
|  |  |  | 2016 |  |  |  |
| 3 | Green belt training (Students) | SVCE | 5&6 Mar | SVCE | National | S.Gopinath |
|  |  |  | 2016 |  |  |  |
| 4 | Design of Experiments | SVCE | 5&6 Mar | SVCE | National | S.Gopinath |
|  | (Faculty) |  | 2016 |  |  |  |
| 5 | Yellow Belt training | SVCE | 21-23 June | SVCE | National | S.Gopinath |
|  |  |  | 2016 |  |  |  |

**B) Ongoing funded projects in the in the Department:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Sl.** | **Name of the Project** | **Funding** | **Period &** | **Coordinators** | **Status of** |
| **No.** |  | **Agency** | **Amount** |  | **the** |
|  |  |  | **Sanctioned** |  | **project** |
| 1 | Experimental investigation of effect on | AICTE – | 2013 – 2016 / | Dr. K.Pitchandi | Tenure |
|  | fuel spray characteristic of direct | Under RPS | **16 lakhs** | Mr. P.Raghu | completed |
|  | injection diesel engine fueled with |  |  |  |  |
|  | biodiesel |  |  |  |  |
| 2 | ANN modeling of pulsed metal inert | AICTE – | 2013 -2016 / | Dr. | Ongoing |
|  | gas[P-MIG]welding of magnesium alloy | Under RPS | **18 lakhs** | N.Muthukrishnan |  |
|  | joints |  |  | Mr.V Gurusamy |  |
| 3 | Investigation of vibration characteristics | AICTE – | 2013 -2016 / | Dr. R.Ramesh | Tenure |
|  | of nana silica/micro rubber reinforced | Under RPS | **9.72 lakhs** | Mr. | completed |
|  | carbon fiber composites structural beams |  |  | C.Senthamarai |  |
|  |  |  |  | Kannan |  |
| 4 | Machining and modeling of fibre | AICTE – | 2013 - 2016 | Dr.T.Raja | Tenure |
|  | reinforced polymer composites | Under RPS | **12.25 Lakhs** | Mr. V.Sridharan | Completed |
|  |  |  |  |  |  |

**C). Projects submitted to Funding Agencies by the Department:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sl. | Name of the Project | Funding Agency | Period & | Coordinators |
| No. |  |  | Amount applied |  |
|  | Nil |  |  |  |
|  |  |  |  |  |

**D). Research centre status of the department:**

Yes, our department research center status was renewed up to June 2017

**3)Student Research Activities:**

1)A). List of projects carried out by the students in the department as in house and Industrial project:

**Refer enclosed Annexure –I**

**B). Research Publications by students in National and International Journal:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl.** | **Name of** | **Title of the paper** | | | |  |  | **Journal Name** | |  |  | **Date** |
| **No.** | **Student** |  |  |  |  |  |  |  |  |  |  |  |
| 1 | J.Raju | Investigation | | of | Performance | | and | International Journal of | | |  | March 2016 |
|  | N.Madhan Raj | Emission | Characteristics | | | using | | Engineering Research & | | |  |  |
|  |  | Low Reactivity Fuel and Biodiesel | | | | | | Technology | |  |  |  |
|  |  | Blended | Nanoparticles in | | | Diesel | |  |  |  |  |  |
|  |  | Engine |  |  |  |  |  |  |  |  |  |  |
| 2 | B. Gautham | Feasibility Study on Waste Heat | | | | | | International Journal of Energy, | | |  | March 2016 |
|  |  | Recovery In IC Engine for | | | | | | Environment and Economics | | |  |  |
|  |  | Operating Triple Fluid Absorption | | | | | |  |  |  |  |  |
|  |  | Refrigeration System | | | |  |  |  |  |  |  |  |
| 3 | N. Madhan Raj | Investigation | | on | aluminium oxide | | | Journal | of | Chemical | and | April 2016 |
|  |  | nano particles blended diesel fuel | | | | | | Pharmaceutical Research | | |  |  |
|  |  | combustion, | | performance | |  | and |  |  |  |  |  |
|  |  | emission characteristics of a diesel | | | | | |  |  |  |  |  |
|  |  | engine |  |  |  |  |  |  |  |  |  |  |
| 4 | E.Saravanakumar | Heat transfer | | | enhancement | | of | Journal | of | Chemical | and | April 2016 |
|  | N. Madhan Raj1 | thermic fluid by using nanofluids | | | | | | Pharmaceutical Research | | |  |  |
|  |  | in radiator | |  |  |  |  |  |  |  |  |  |
| 5 | P.Karthik Selvan | Experimental | | and mathematical | | | | Journal | of | Chemical | and | April-June |
|  |  | modeling in a DICI engine with | | | | | | Pharmaceutical Sciences | | |  | 2016 |
|  |  | various combustion chambers | | | | |  |  |  |  |  |  |

C). Research Presentations by students in National and International Conferences/ symposiums/ workshops:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sl. | Name of | Title of the | Name of the | National/ | Venue | Date |
| No. | Student | paper | Conference/ | International |  |  |
|  |  |  | symposium/ workshop |  |  |  |
|  |  |  |  |  |  |  |

D) National and International Conferences/ symposiums/ workshops attended by the students:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sl. | Name of | Name of the Conferences/ | National/ | Venue | Date |
| No. | Student | symposiums/ workshops | International |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

**4)Sponsorship details of faculty and students:**

**I)Sponsorship for faculty members:**

A)Faculty sponsored for presentation in National Conferences/ symposiums/ workshops: Nil

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sl. | Name of the | Date | Title of the Paper | Name of the | Venue | Sponsorship |
| No | Faculty |  |  | Conferences/ |  | Amount(Rs.) |
|  |  |  |  | symposiums/ |  |  |
|  |  |  |  | workshops |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

B) Faculty sponsored for presentation in International Conferences/ symposiums/ workshops: Nil

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sl. | Name of | Date | Title of the Paper | Name of the | Venue | Sponsorship |
| No. | the Faculty |  |  | Conferences/ |  | Amount(Rs.) |
|  |  |  |  | symposiums/ workshops |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

C) Faculty sponsored for attending National Conferences/ symposiums/ workshops: Nil

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sl. | Name of the | Date | Name of the Conference/ | Venue | Sponsorship |
| No | Faculty |  | symposium/ workshop |  | Amount(Rs.) |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

**II)Sponsorship for Students:**

A)Students sponsored for presentation in National Conferences/ symposiums/ workshops:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sl. | Name of the | Date | Title of the | Name of the | Venue | Sponsorship |
| No. | Faculty |  | paper | Conference/ |  | Amount(Rs.) |
|  |  |  |  | symposium/ |  |  |
|  |  |  |  | workshop |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

B) Students sponsored for presentation in International Conferences/ symposiums/ workshops:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sl.No | Name of the | Date | Title of the | Name of the | Venue | Sponsorship |
|  | Faculty |  | paper | Conference/ |  | Amount(Rs.) |
|  |  |  |  | symposium/ workshop |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

C) Students sponsored for attending national Conferences/ symposiums/ workshops:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sl.No | Name of the | Date | Name of the | Venue | Sponsorship |
|  | Faculty |  | Conference/ |  | Amount(Rs.) |
|  |  |  | symposium/ workshop |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

**5)Research cell(s) /area(s) of research in the department:**

**Faculty members carry out research in the following fields:**

Fluid Mechanics & Machinery, Heat & Mass transfer, Thermodynamics, Composites, Machinability study, Optimization, Tribology, Mechanical behaviour of Engineering Materials, Vibration, I C engines, Heat transfer equipments, Super plastic formation, Friction stir welding, Non-ferrous metal joining processes, metal matrix composites, tribological characterization, multi-layer coating, FEM, Material Characterization, Surface Engineering, Polymeric Materials, Metal Casting, Fluid Power, Mechatronics.

**6)Consultancy work in the department:**

[i]Thermal Engineering lab = Rs. 5,09,200/- (Rupees Five Lakh nine thousand and two hundred Only)

[ii]Western Thomson India (P) Ltd. = Ritz Car worth 3Lakhs + 1 Lakh

[iii]Machine Shop = Rs.17,500/- (Rupees Seventeen thousand and five hundred only)

**7)Patent information:**

|  |  |
| --- | --- |
| **Research Coordinator** | **Head of the Department** |