

## BIO DATA

**NAME** Dr. SUNIL KUMAR

**DATE OF BIRTH** 15/08/73

**PERMANENT ADDRESS: -** KUMHAR TOLI, CHUNNA BHATTA  
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**PRESENT ADDRESS: -** DEPARTMENT OF MECHANICAL ENGINEERING  
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### EDUCATIONAL QUALIFICATIONS

Degree	Institute/University	Year of Passing	Specialization
PhD	B.I.T.S indri/VBU Hazaribag	October 2017	Renewable Energy(solar)
MTech	B.I.T.Sindri VBU Hazaribag	Sept 2009	Mech Engg (Heat Power)
PGDC in Thermal Power Plant Engg	NPTI Nagpur	1998	Power Plant
B.Sc Engg	M.I.T Muzaffarpur/BSBRA Bihar Univ	1996	Mechanical Engg

### Employment Record

Institute	Designation	Period
B.I.T.Sindri	(Assistant Professor)	07/09/2006 to 06/09/11 grade pay 6000
B.I.T SINDRI	(Assistant Professor)	07/09/11 to 06/09/2016 Grade pay 7000
B.I.T SINDRI	(Assistant Professor)	07/09/2016 to 17/02/2021 Grade pay 8000
BIT SINDRI	(ASSOCIATE PROFESSOR)	18/02/2021 to till date Grade pay 9000

## **ANEXURE I**

### **Research Guidance (M Tech)**

**1. Performance and condition assessment of condenser in power plant.by AMIT KR BHAGTA**

**2. Construction and Fabrication of Prototype Salt Gradient solar pond.by SANTOSH EKKA.**

**3 Performance investigation of prototype salt gradient solar pond with corrugated bottom and twisted tapes.by UTTAM KR PASWAN**

**4 Experimental investigations of Heat Exchanger with longitudinal Baffles by MAHESH TIRKEY.**

**5 Activity of different inoculation on food waste anaerobic digestion system. By SANDEEP KUMAR**

**6 Waste heat recovery management using thermoelectric generator system. By NIRANJAN KUMAR.**

**7 Fabrication and Performance analysis of low-cost parabolic solar dish collector cum storage type water heater by KUNDAN KUMAR SHARMA.**

**8 Experimental analyses of performance of cylindrical parabolic collector with and without Tracking system by RITU RAJ.**

### **B TECH PROJECT**

**1 Vapor Absorption Refrigeration system (Lithium Bromide Water Absorption) by Pawan kr Yadav and team**

**2 Utilization of Waste Heat from condenser in Vapor Compression Refrigeration System by Naveen kr Singh and team.**

**3 Regenerative Braking system by Ronak Raj and his team.**

**4 Sun Tracking solar panel Using Micro-Controller by Shubham Singh and his Team.**

## ANEXURE II

### Short term training programme

- 1 Developing personal and professional effectiveness at XLRI Jamshedpur on 16-24 December 2006 (02 week)
- 2 Harnessing Renewable Energy- state of the art at N.I.T.Patna on 16-29 June 2007 (02week)
- 3 Pedagogy at B.I.T .Sindri 14-19 October 2008 (01 week)
- 4 non-Conventional machining processes at NITTTR Kolkata 20-24 Oct 2008 (01 week)
- 5 Teaching Computer graphics at I.I.T. Delhi on 14-25 June 2010 (02week)
- 6 Faculty Development Programme on Entrepreneurship 13- 25 Dec 2010 at B.I.M.TECH Greater Noida. (02 week)
- 7 Faculty Development Programme on Entrepreneurship 27 Dec – 07 Jan 2011 at K.G.V. K .Ranchi (02 week)
- 8 Machining with CNC Turning center 02 July-06 July 2012 at NITTTR Kolkata (01 week)
- 9 Performance Enhancement Skills 23 Jul–Aug 2012 at B.I.T Sindri (02 week)
- 10 Personality Developments 23 Oct – 06 Nov 2015 at B.I.T. Sindri (02 week)
11. How to write Thesis or Research paper 30 May -03 June 2016 at NITTTR Kolkata (01 week)
- 12 ICT skills for teachers organized by Electronics and ICT Academy, N.I.T.Patna in collaboration of B.I.T.Sindri on 19 Jun- 24 Jun 2017. (01 week)
13. Recent Advances in Micro fluidics; Development Application and Analysis (RAMDAA-2017) Organized by N.I.T.Durgapur west Bengal on 06 December- 10 December 2017 (01 week)
- 14 Summer Training Programming on Active learning at I.I.T Gandhi-Nagar on 18-22 June 2018.
- 15 One week FDP on Advancement and Application of soft computing in Electrical system jointly organized by Electronics and ICT Academy, N.I.T.Patna and Department of Electrical Engineering B.I.T.Sindri from 13-17 July 2018.
- 16 One week workshop on Flow and Process simulation in Process Industries from 29 October to 02 November 2018 at B.I.T.Sindri
- 17 One week workshop on Recent Advances in Manufacturing (RAIM-2018) organized by Department of Mechanical Engineering in collaboration with SIMENS Coe sponsored by TEQUIP III on 27 November to 01 December 2018 at B.I.T. Sindri.

- 18 One week Faculty Development Program on DSP and Sensor organized by Electronics and ICT Academics and B.I.T. Sindri on 10 December to 14 December 2018**
- 19 One-week Faculty Development Program on Natural Language Processing jointly organized by Electronics and ICT Academics and B.I.T. Sindri on 06 January to 10 January 2020**
- 20 One-week faculty Development Program on Green Building, Energy Efficiency and Energy Policy for Sustainable future organized by ASTU & GIMT Guwahati held on 08/06/20 to 13/06/20**
- 21 Two-week STTP on Green Energy Technologies for Sustainable Development Held on 11/06/20 to 20/06/20 at NIT Kurukshetra and GEC Bikaner.**
- 22. Online STTP on sustainable Energy system for Remote villages in India held On 14/09/20 to 18/09/20 at GEC Raipur.**
- 23 . One-week online FDP Program on Advanced Pedagogy for efficient online teaching during Pandemic like crisis held on 14/12/20 to 18/12/20 at IIT Roorkee.**
- 24 Short term programs in Excellence in Communication from 25/02/21 to 04/03/21 at IIM Bodh Gaya.**
- 25 One-week Workshop on Control System and Application at NIT Sikkim in Collaboration with TEQUIP III from 09/03/2021 to 13/03/2021.**
- 26 FDP on Mechanical Engineering Emerging Technology (MEET 2021) held at BIT Sindri on 24/05/21 to 29/05 21.**

## ANEXURE III

### **National Seminar, Workshop attended**

- 1 National workshop on industry –institute interaction 13 – 14 July 2007 at B.I.T. Sindri**
- 2 National workshop on intellectual property rights (IPR 2013) on 26 October 2013 at BIT Sindri**
- 3 National seminars on Environmental issues, protection, conservation and management (EIPCM 2016) on 26-27 Feb 2016 at B.I.T.Sindri.**
- 4 Participated in two days workshop on” Introduction to Robotics” on 08<sup>th</sup>- 09<sup>th</sup>- may 2018 at IIT Mumbai.**
- 5 National conference on science and technology of special steels and Nano materials on 17-18 Feb 2018 at B.I.T.Sindri**
- 6 Workshop on outcome based education (OBE)and Accreditation sponsored byTEQIP Phase 3 during 16 Mar-17 Mar 2017at B.I.T.Sindri**
- 7 Participated in the workshop Innovation for Sustainable Energy system (ISES-2019) on 21<sup>st</sup>Sept organized by The Institution of Engineers (India) and TEQUIP III B.I.T.Sindri in association with department of Electrical Engineering B.I.T.Sindri and CIMFER Dhanbad.**
- 8 Participated in the Entrepreneurship Summit -2019 organized by startup cell and Institute innovation council B.I.T.Sindri from 15<sup>th</sup>-17<sup>th</sup> November 2019 at B.I.T.Sindri**
- 9 Two-week course on Digital Transformation in Teaching and learning Process organized by IIT Bombay on 16<sup>th</sup> March to 30<sup>th</sup> March 2020**
- 10 Participated and successfully completed AICTE Training and Learning (ATAL) Academy online Elementary FDP on Redemption from Plastic Pollution, Indian Railways from 05/07/21 to 09/07/21 at National Rail and Transport Institute.**
- 11 Participated and successfully completed AICTE Training and Learning (ATAL) Academy online Elementary FDP on Electric Vehicle Technologies and Challenges from 20/07/21 to 24/07/21 at A D Patel Institute of Technology.**
- 12 Participated and successfully completed AICTE Training and Learning (ATAL) Academy online Elementry FDP on Advanced Control and Sensor Technology for Smart Grid With Renewable Energy Integration .from 17/01/22 to 21/01/22 at Progressive Education society Modern College of Engineering.**
- 13 Participated and Successfully Completed (NPTEL) 12 Week courses Non-Conventional Energy Resources conducted by IIT Madras**
- 14 successfully Completed 30 days master class on Electric Vehicle Design at Pantech e learning Pvt Ltd Chennai from 20/06/22 to 19/07/22.**

## **ANEXURE IV**

### **Research paper publication**

- 1 SUNIL Kumar and s.k.singh Effect of insulation and transparent glass cover on the performance of the salt gradient solar pond ,International Journal of research in Engineering and science (e issn 2320-9364) vol 1 issue 2 June 2013 pp 01-04**
- 2 Sunil Kumar and sk singh Effect of thermal conductivity of salt water and bottom reflectivity on the performance of the salt gradient solar pond, VSRD International Journal of Mechanical, Civil ,Automobile Production Engineering (e issn 2249-2208) vol 3 july 2013 pp 241-244**
- 3 sunil kumar and sk singh Impact assessment of salt gradient solar pond against global energy crisis, International Journal of Engineering and Management Research (e issn 2250-0758) vol 4 issue 2 April 2014 pp 88-91**
- 4 sunil kumar, sksingh and ukpaswan comparative analysis of performance of salt gradient solar pond with conventional (flat) and corrugated bottom.International journal of Mechanical Engineering and Technology. (I ssn0976-6340) vol 5 issue 4 April 2014 pp 194-198**
- 5 sunil kumar and sksingh Experimental investigation of performance of prototype salt gradient solar pond with corrugated bottom and twisted tapes .International Journal of Mechanical Engineering and Research (i ssn 2249-0019) vol 5 issue 1 2015 pp 1-8**
- 6 Sunil kumar and sandeep kumar Activity of different inoculation on food waste Anaerobic digestion system of B.I.T.Sindri in International Research journal of Engineering and Technology.(IRJET) e-issn 2355-0056,p-issn 2395-0072 vol 4 issue 2 February 2018.**
- 7 Sunil Kumar and sandeep Kumar, Role of various inoculation on food waste anaerobic digestion system, International journal of advanced technology in engineering and science. (Issn-2348-7550,) vol 5 issue 07 July 2017**
- 8. Sunil Kumar and Niranjana kumar, Waste heat recovery management using thermoelectric generator system, International journal of advanced technology in engineering and science.(issn-2348-7550) vol 5 issue 07 July 2017**
- 9 Sunil Kumar and Niranjana kumar, Waste heat recovery management using thermoelectric system ,Journal of Industrial Engineering and its Application.vol 02 issue 02 July 2017.**
- 10 Sunil kumar and k.k.sharma "Performance analysis of a lowcost solar dish collection" in International journal for Research in Engineering Application and Management 2018**
- 11 Sunil Kumar and kksharma "comparison between single and series low cost parabolic solar disc collector "in International journal of Management Technology and Engineering. Vol 8 issue ix September 2018.**

**12 Sunil Kumar and Ravi Kumar Yadav Investigation on Recycling Food waste on Household and Hostels at B.I.T.Sindri campus in International journal of Management Technology and Engineering vol 8, issue xi November 2018**

**13 Proceeding of the 25 th National & 3<sup>rd</sup> International ISHMT .Heat & Mass Transfer Conference held at IIT Roorkee (ISMTC 2019)on 28-31 December 2019**

**14 Sunil Kumar and Ravi Shankar Gupta Effect of Nano Fluids particles for Enhancing the rate of heat transfer, International journal of Management Technology and Engineering vol 09 issue viii August 2019**

**15 Sunil Kumar and Ritu raj, Experimental analysis of performance of cylindrical parabolic collector with and without Tracking system, International Journal of Research and Analytical Reviews (IJRAR)vol 7 issue 3 September 2020.**

**16 Sunil Kumar and Amit Kumar bhakta, Investigation on thermal and hydraulic performance of parabolic Trough solar collector, International Journal of Mathematics and computer Research vol 09 issue 04 April 2021**

## ANEXURE V

### Paper presented at conference and seminars

- 1 Sunil Kumar and sksingh National seminar on Energy and Environment for sustainability (EES 2013) study of social costs of solar energy ISBN 978-93-82880-18-9 on 16<sup>th</sup> -17<sup>th</sup> march 2013 at BIT Sindri
- 2 Sunil Kumar and sksingh International conference on smart ,structure and system (ISSS -13) ISBN NO 978-24673-6240-5 Prediction of performance ,temperature and salinity profiles in prototype salt gradient solar pond on 28<sup>th</sup> -29<sup>th</sup> March 2013 Savitha Engg college Chennai.
- 3 Sunil Kumar and sksingh All India seminar on Recent advancement in manufacturing and its management (RAMM-2014) Solar Energy for 21<sup>st</sup> century, looking towards future on 07-08 Feb at B.I.T.Sindri
- 4 . Sunil Kumar and sksingh All india seminar on Recent advancement in Manufacturing and its management (RAMM-2014) the effect of Environment air Pollution on 07-08 Feb at B.I.T.Sindri
- 5 Sunil Kumar and sksingh International seminar on Recent Development on Renewable Energy and sustainable Development at ROYAL UNIVERSITY OF BHUTAN, Enhancement in thermal performance of salt gradient solar pond with corrugated bottom ,twisted tapes ,and booster mirrors on 15<sup>th</sup>-17<sup>th</sup> June 2015
6. Sunil Kumar and sksingh 1<sup>st</sup>- International conference on computer and electronics engineering (ICCEE-2016) Thermo hydraulic performance of solar water heater with twisted tapes and booster mirrors on 9<sup>th</sup>- 10<sup>th</sup>Jan 2016 at Hyderabad.
- 7 Sunil Kumar and Sandeep kumar,4<sup>th</sup> International conference on Emerging trends in Engineering Technology, science and Management (ICETSM 17) Role of various inoculation on food waste anaerobic digestion system ISBN no 978-9386171-54-2 on 16<sup>th</sup> July 2017 at IETE (Institution of Electronics and Telecommunication Engineers, Pankha road,janakpuri New-Delhi
- 8 Sunil Kumar and Niranjan kumar,4<sup>th</sup> International conference on Emerging trends in Engineering Technology, science and Management (ICETSM 17) Waste heat recovery management using thermo-electric Generator system ISBN no 978-9386171-54-2 on 16<sup>th</sup> July 2017 at IETE (Institution of Electronics and Telecommunication Engineers, Pankha road, janakpuri New-Delhi.
- 9 Sunil Kumar and Santosh Ekka International conference on Energy, Materials and Information Technology (ICEMIT-2017) Study of performance of salt gradient solar pond on 23-24 December 2017 Co-sponsored by DST-SERB-INDIA at Amity University Jharkhand.
- 10 Sunil Kumar and Amit Kumar Bhakta 3<sup>rd</sup> International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTTC-2019) held on 28 – 31 December at IIT Roorkee.

**11. Sunil Kumar and Ravi kr Yadav, International conference on Energy and Environment (ICEE 2021) Utilization of waste product as an Alternative Fuel held on 09-10 April 2021 at Jyothi Engineering college Thrissur .**

**12 Sunil Kumar and Kunal Kumar International virtual conference Recent Innovation in Science and Technology (RIST 2021) Clean Technology From Waste Management held on 19-20 June 2021 organized by Ernald Knowledge city Technical campus Kerala**

## **ANEXURE VI**

### **Other responsibilities-**

- 1 Asst Professor in charge Heat Engine Lab (from 24/01/08)**
- 2 Asst Professor in charge Solar Energy Lab (from 09/11/06-05/02/15)**
- 3 Asst Professor in charge Academic (from 15/07/11-30/04/16)**
- 4 Asst Public Information officers (from 24/01/12)**
- 5 Hostel Superintendents (from 12/05/11 -30/11/15)**
- 6 Hostel Superintendents (from 2/05/18 –07/12/2019)**
- 7 Professor in charge Transport**
- 8 Professor in Charge Body Repair Lab (from 01/12/2020 – till date)**

### **Membership of Professional bodies-**

- 1 Associate member of Institution of Engineers (INDIA) (AM 099076-3)**
- 2 Life membership Indian Society of Technical Education (ISTE)(LM627840)**

**Editorial board member in international journal of Engineering and Management Research.**

**Reviewer in the peer review process for Global Research and Development Journal**

**Conducted on line lecture for the student of 4<sup>th</sup> semester Mechanical Engineering student of Government Polytechnic Simdega. Jharkhand on 25 /07/21**

**Nominated as a member of committee for selection of Project Assistant at CSIR-CIMFER on 04/02/21**

**Nominated as Observer for conducting B tech 1 st and 3<sup>rd</sup> Engineering students and Diploma 1 st and 3 rd year Engineering students.**

### **Publication (Book Chapter)**

**Manuscript (2021/BP/12257D) entitled investigating the effect of Thermal conductivity of salt water and bottom reflectivity on the performance of the salt gradient solar pond published as Book Chapter in New Approaches In Engineering Research (International book)**

**Acted as Coordinator in the Workshop in the Workshop on Emerging Trends in Mechanical engineering Organized by Department of Mechanical Engineering Under TEQIP III During 8<sup>th</sup> July to 12 th July 2019.**

**Conducted workshop on Mathematical Modelling of Electric Vehicle Organized by Mechanical engineering Society Mechanical Engineering Department in Association with SKYYRIDER Institute held on 08 June 2022.**

**Conducted on week Virtual e-FDP on Electric Vehicle System in Association with Sky Ryder in the Department of Mechanical engineering from 08/08/22 to 13/08/22**

**Participated as Key Note Speaker in the Intellectual Basket of Women's National Conference 2022 Titled SPACE DATA ANALYTICS AND STARTUPS (NCSDAS-2022) Organized by Jayoti Vidyapeeth Women's University JAIPUR.**

### **Project and Consultancy**

**Project Titled Design and Installation of Hybrid Thermal Energy Storage system at the Department of Mechanical Engineering at BIT Sindri has been applied to Ministry of Renewable Energy (R&D Division) under RE-RTD 2022.**

**CSR Project proposal Titled SKILL DEVELOPMENT has been applied to CCL RANCHI and ACC Cement company Sindri.**