Curriculum Vita

PERSONAL DETAILS

Name Prof. Sanjay

Qualification : Ph.D. in Mechanical Engg.
Designation : Professor, (since March 2008)
Mechanical Engineering Department
Current Employer : National Institute of Technology, Jamshedpur, INDIA

Date of Birth : 1st July 1969 (Age : 49 years)
Address of Correspondence : B-30, N.I.T, Campus,
National Institute of Technology, Jamshedpur, Jharkhand, INDIA, Pin-831014
Contact Details : Email: sanjay.me@nitjsr.ac.in
☏ 91-657-2373813 ® Mobile: 91-9430738551
Fax: 91-657-2373246,

Recently completed ***21-day MHRD sponsored Academic Leadership Programme (LEAP) at Nanyang Technological University Singapore*** organized in association with NIT Trichy.

Sole nomination from NIT Jasmhedpur as my Credit Points (NIT-RR) exceeds HAG scale requirements of 150 and is 200+.

ACADEMIC QUALIFICATION:

Details of University Qualification:

Degree Awarded	***University***	***Name of Institute***	***Year***	***Class / Division Awarded***	***Percentage of Marks***
Bachelor of Engg. (Mechanical)	Gulbarga University, Gulbarga	P.D.A College of Engg., Gulbarga	1993	1st Class	66%
Master of Engg. (Mechanical) *Thesis Title:* Software Development for Design of Steam Surface Condenser	Allahabad University, Allahabad, INDIA	M.N.R. Engg. College, Allahabad, (Now M.N.N.I.T, Allahabad)	1998	1st Class	69%
Doctor of Philosophy (Ph.D) Mechanical Engg (2005)	Uttar-Pradesh Technical University, Lucknow	Title of Thesis: Thermodynamic Analysis of Gas/Steam Combined Cycle and Cogeneration Plants			

PROFESSIONAL EXPERIENCE:

Around 23 years of rich professional experience has been on credit-both in the industry and academic institute. Industrial experience has been with companies, which are leaders in their area of business. The industries include inspection of oil and gas pipelines, steam and gas turbine, pumps, blower, pressure vessels, structures, etc.

Since joining present teaching assignment at NIT, Jamshedpur about seventeen years back, I have been engaged in classroom teaching as well as Laboratory Teaching at both UG and P.G levels. The subjects engaged have been:

- Internal Combustion Engines
- Gas Turbines
- Energy Conversion systems
- Engineering Graphics
- Non-destructive testing
- Refrigeration and Air-conditioning
- Project Management and Control
- Welding technology
- Power Plant Engineering

AREAS OF RESEARCH:

- Gas Turbine based power cycle analysis
- Combined Cycle Power Plants
- CAD of Thermal Systems

Summary of Employment details				
S.No	**Position Held**	**Employer**	**Period** (approx)	**Remarks**
1.	Joined as Assistant Professor…upgraded to Associate Professor… and promoted to Professor on 1st March 2008	National Institute of Technology, Jamshedpur	Since March 2000 and continuing till date	Teaching and research experience of over 23 years with over ELEVEN years as Professor
2.	Inspection Engineer	Tata Projects Ltd., Hyderabad	1.5 years	Third party inspection of eqpt. worth approx. US$ 40,0000
3.	Senior Engineer, Inspection	Triveni Engg. And Ind. Ltd. New Delhi	2.5 Years	Inspection of Steam turbines
4.	Engineer (Petroleum Pipelines)	Punj Lloyd Ltd., New Delhi	1 Year	Inspection of cross-country buried petroleum pipeline worth US$ 10,0000
5.	Assistant Engineer	Syner India Ltd. New Delhi	1 Year	Started working from August 1993

Academic/Teaching Experience (In chronological order from latest to oldest)

Position Held	Organization/ University	Duration		Experience
		From (Date)	To (Date)	
Professor of Mechanical Engg.	NIT Jamshedpur	1st March' 2008	Continuing	11 years+
Associate Professor of Mechanical Engg.	NIT Jamshedpur	1st Jan' 2006	29th Feb' 2008	2 years 2 months
Assistant Professor of Mechanical Engg.	NIT Jamshedpur	1st March' 2000	31st Dec 2005	8 years

Ph.D. Supervised: SIX completed, Three ongoing

TITLE	YEAR
1) Investigation of Parameters Affecting the Energy and Exergy Performance of Inlet Air Cooled Combined Cycle Plant	2012
2) Thermodynamic Analysis of Gas Turbine System for Sustainable Energy Conversion	2012
3) Investigation of Parameters Affecting Thermodynamic and Emission Performance of Complex Gas Turbine Based Power Plant Cycles	2017
4) Thermal Analysis of Solid-Oxide-Fuel-Cell Based Advanced Hybrid Energy Conversion Cycles	2017
5) Exergoeconomic Analysis of Air Film Cooled Complex Gas Turbine Based Power Plant Cycles	2018
6) Thermodynamic Performance Prediction of Cooled Gas Turbine Cycle Based Power Plants	2019

Administrative Experience:

S.N.	Name of Role/ Designation details	Tenure
1	Dean (Student Welfare)- Responsible for overall growth and well-being of 3400+ students in the Institute. **Budget of the Division Rs. 120lacs approx.**	May 2018-onwards & Continuing
2	Dean (Industry and Alumni Relations)- Responsible for Collaboration with Industry and Alumni to achieve institute missions	Sept'2015 to May 2018
3	Member of Statutory ACoFAR and ACoNFAR committee which is a final stage scrutiny committee for Faculty and Non-faculty recruitment in the NIT system and frames scrutiny criterion	Dec 2017 onwards
4	Professor In-charge (Training & Placement) **Division Achieved 90%+ Placements**	2016 - 2017
5	Associate Dean (PG & Research) -Responsible for PG and Research courses of the Institute	2013 to 2015
6	Chairman (Library Committee)- Responsible for Training needs to 3000+ on-campus students and Placement of needs of 900+ students batch	2012 -2014 & 2016-17
7	Coordinator –Student Activities -Responsible for all student Extra-curricular activities including Sports/Cultural/Technical festivals **Cumulative event budget Rs 100lacs approx.**	2011 to 2013
8	Convener Admission Committee (PG&R) -Responsible for Coordination of PG level and Ph.D. level admission process	2015 to 2017
9	Faculty Advisor (M.Tech-Thermal Engg.)	2015 to 2018
10	Post Graduate Studies Course Coordinator- Responsible for Coordination of the activities of Continuing Education Programme	2004 to 2006
11	Warden of Boys Hostel-G	2003 to 2009

RESEARCH/SCHOLARLY ACTIVITIES:

Research Output Listing: https://scholar.google.com/citations?hl=en&user=EeZG8psAAAAJ

Research Publications: **33 (in SCI Journals)**
54 (in Scopus Indexed Journals)
10+ (in International Conferences)

ResearchGate Score: 28.58

i-10 index : 20
h-index : 15

Authors	Title	Year	Source title	Volume	Issue	Page start	Page end	DOI
Mohapatra A.K., Sanjay	Exergetic evaluation of gas-turbine based combined cycle system with vapor absorption inlet cooling	2018	Applied Thermal Engineering	136		431	443	10.1016/j.applthermaleng.2018.03.023
Mishra S., Sanjay	Energy and exergy analysis of air-film cooled gas turbine cycle: Effect of radiative heat transfer on blade coolant requirement	2018	Applied Thermal Engineering	129		1403	1413	10.1016/j.applthermaleng.2017.10.128
Mishra S., Sanjay R.	Thermodynamic Performance Prediction of Air-Film Blade Cooled Gas Turbine Based Cogeneration Cycle for Marine Propulsion Applications	2018	SAE Technical Papers	2018-April				10.4271/2018-01-1364
Sahu M.K., Sanjay	Thermoeconomic investigation of basic and intercooled gas turbine based power utilities incorporating air-film blade cooling	2018	Journal of Cleaner Production	170		842	856	10.1016/j.jclepro.2017.09.030
Sahu A., Sahu M.K., Sanjay R.S.	Exergo-environmental Analysis of Basic and Intercooled-Recuperated Gas Turbine based Aviation Auxiliary Power Unit	2018	SAE Technical Papers	2018-April				10.4271/2018-01-1376
Mishra S., Sohret Y., Sanjay R.	Advanced Exergy Analysis of Air-Film Blade Cooled Marine Gas Turbine (LM2500+)	2018	SAE Technical Papers	2018-April				10.4271/2018-01-1372
Sahu M.K., Choudhary T., Kumari A., Sanjay R.	Thermoeconomic, Sustainability and Environmental Damage Cost Analysis of Air Cooled CT7-7A Turboprop Engine	2018	SAE Technical Papers	2018-April				10.4271/2018-01-0774

Choudhary T., Sahu M.K., Sanjay R., Kumari A., Mohapatra A.	Thermodynamic Modeling of Blade Cooled Turboprop Engine Integrated to Solid Oxide Fuel Cell: A Concept	2018	SAE Technical Papers	2018-April			10.4271/2018-01-1308
Kumari A., Sahu M.K., Sanjay R., Choudhary T., Mohapatra A.	Exergy and Emission Analysis of Evaporative Inlet Air-Cooled Gas Turbine Cycle	2018	SAE Technical Papers	2018-April			10.4271/2018-01-1271
Rathore S.S., Singh A., Kumar P., Alam N., Sahu M.K., Sanjay R.	Review of Exhaust Gas Heat Recovery Mechanism for Internal Combustion Engine Using Thermoelectric Principle	2018	SAE Technical Papers	2018-April			10.4271/2018-01-1363
Choudhary T., Sanjay	Novel and optimal integration of SOFC-ICGT hybrid cycle: Energy analysis and entropy generation minimization	2017	International Journal of Hydrogen Energy	42	23	15597	10.1016/j.ijhydene.2017.04.277
Choudhary T., Sanjay	Thermodynamic assessment of advanced SOFC-blade cooled gas turbine hybrid cycle	2017	International Journal of Hydrogen Energy	42	15	10248	10.1016/j.ijhydene.2017.02.178
Choudhary T., Sahu M.K., Sanjay	CFD Modeling of SOFC Cogeneration System for Building Application	2017	Energy Procedia	109		3613	10.1016/j.egypro.2017.03.087
Mishra S., Sanjay Y.	Parametric Analysis of Aero-Derivative Gas Turbine: Effect of Radiative Heat Transfer on Blade Coolant Requirement	2017	SAE Technical Papers	2017-September			10.4271/2017-01-2045
Sahu M.K., Sanjay	Comparative exergoeconomics of power utilities: Air-cooled gas turbine cycle and combined cycle configurations	2017	Energy	139		42	51	10.1016/j.energy.2017.07.131
Sahu M.K., Sanjay	Thermoeconomic investigation of power utilities: Intercooled recuperated gas turbine cycle	2017	Energy	138		490	499	10.1016/j.energy.2017.07.08

	featuring cooled turbine blades							3
Choudhary T., Sanjay	Thermodynamic assessment of SOFC-ICGT hybrid cycle: Energy analysis and entropy generation minimization	2017	Energy	134		101	1028	10.1016/j.energy.2017.06.064
Sahu M.K., Sanjay	Comparative exergoeconomic analysis of basic and reheat gas turbine with air film blade cooling	2017	Energy	132		160	170	10.1016/j.energy.2017.05.025
Sahu M.K., Sanjay	Exergoeconomic investigation of power utility based on air film blade cooled gas turbine cycle	2017	Applied Thermal Engineering	122		738	746	10.1016/j.applthermaleng.2017.05.052
Sahu M.K., Choudhary T., Sanjay Y.	Exergoeconomic Analysis of Air Cooled Turboprop Engine: Air Craft Application	2017	SAE Technical Papers	2017-September				10.4271/2017-01-2044
Sahu M.K., Sanjay	Investigation of the effect of air film blade cooling on thermoeconomics of gas turbine based power plant cycle	2016	Energy	115		1320	1330	10.1016/j.energy.2016.09.069
Choudhary T., Sanjay	Computational analysis of IR-SOFC: Transient, thermal stress, carbon deposition and flow dependency	2016	International Journal of Hydrogen Energy	41	24	1021	1027	10.1016/j.ijhydene.2016.04.016
Kumari A., Sanjay	Thermo-environmental Analysis of Recuperated Gas Turbine-Based Cogeneration Power Plant Cycle	2016	Arabian Journal for Science and Engineering	41	2	691	709	10.1007/s13369-015-1835-2
Choudhary T., Sanjay	Computational analysis of IR-SOFC: Thermodynamic, electrochemical process and flow configuration dependency	2016	International Journal of Hydrogen Energy	41	2	1259	1271	10.1016/j.ijhydene.2015.10.098
Sahu M.K., Choudhary T., Sanjay Y.	Thermoeconomic Investigation of Different Gas Turbine Cycle Configurations for Marine Application	2016	SAE Technical Papers	2016-October				10.4271/2016-01-2228
Kumari A., Sanjay	Investigation of parameters affecting exergy and emission performance of basic and	201	Energy	90		525	536	10.1016/j.energy.201

	intercooled gas turbine cycles	5						5.07.084
Kumari A., Choudhary T., Sanjay Y., Murty P., Sahu M.	Thermodynamic and Emission Analysis of Basic and Intercooled Gas Turbine Cycles	2015	SAE Technical Papers	2015-September	September			10.4271/2015-01-2426
Mohapatra A.K., Sanjay	Comparative analysis of inlet air cooling techniques integrated to cooled gas turbine plant	2015	Journal of the Energy Institute	88	3	344	358	10.1016/j.joei.2014.07.006
Mohapatra A.K., Sanjay	Analysis of combined effects of air transpiration cooling and evaporative inlet air cooling on the performance parameters of a simple gas turbine cycle	2015	Journal of Energy Engineering	141	3			10.1061/(ASCE)EY.1943-7897.0000184
Choudhary T., Sanjay, Murty P.	Parametric Analysis of Syn-Gas Fueled SOFC with Internal Reforming	2015	SAE Technical Papers	2015-April	April			10.4271/2015-01-1176
Mohapatra A.K., Sanjay	Thermodynamic assessment of impact of inlet air cooling techniques on gas turbine and combined cycle performance	2014	Energy	68		191	203	10.1016/j.energy.2014.02.066
Mohapatra A.K., Sanjay	Analysis of parameters affecting the performance of gas turbines and combined cycle plants with vapor absorption inlet air cooling	2014	International Journal of Energy Research	38	2	223	240	10.1002/er.3046
Sanjay, Singh O., Agarwal M., Rajay	Energy and exergy analysis of brayton-brayton hybrid cycle for power plant applications	2014	Engineering Letters	22	4	215	220	
Afeez A., Sanjay, Kumar A.	Application of CAD and reverse engineering methodology for development of complex assemblies	2013	Journal of Engineering, Design and Technology	11	3	375	390	10.1108/JEDT-10-2011-0073
Sanjay, Prasad B.N.	Energy and exergy analysis of intercooled combustion-turbine based combined cycle power plant	2013	Energy	59		277	284	10.1016/j.energy.2013.06.051
Sanjay	Exergy and Energy Analysis of Combined Cycle systems with	20	International Journal of Energy Research	37	8	89	91	10.1002/er.28

	Different Bottoming Cycle Configurations	13				9	2	92
Sanjay K.N.	Exergy analysis of effect of air/fuel ratio and compression ratio on rational efficiency of gas/steam combined cycle	2013	Journal of the Energy Institute	86	1	41	48	10.1179/1743967112Z.0000000004 1
Mahapatra A.K., Sanjay	Performance analysis of an air humidifier integrated gas turbine with film air cooling of turbine blade	2013	Journal of Energy in Southern Africa	24	4	71	81	
Mohapatra A.K., Sanjay	Analytical Investigation of Parameters Affecting the Performance of Cooled Gas Turbine Cycle with Evaporative Cooling of Inlet Air	2013	Arabian Journal for Science and Engineering	38	6	1587	1597	10.1007/s13369-013-0598-x
Mohapatra A.K., Sanjay, Prasad L.	Thermodynamic analysis of the effect of blade cooling methods on air humidifier integrated gas turbine cycle	2012	Journal of the Energy Institute	85	2	61	69	10.1179/1743967111Z.0000000002
Shukla S., Murty P., Sanjay	Combined heat and power through biomass - An overview	2011	SAE Technical Papers					
Shukla S., Murty P., Sanjay	Combined heat and power through biomass - An overview	2011	SAE 2011 World Congress and Exhibition					10.4271/2011-01-0319
Sanjay	Investigation of effect of variation of cycle parameters on thermodynamic performance of gas-steam combined cycle	2011	Energy	36	1	157	167	10.1016/j.energy.2010.10.058
Mandal S., Sanjay, Shrivastava R.	Implementation of an online teacher assessment/appraisal in technical education institution: A Case study	2010	Turkish Online Journal of Distance Education	11	4	25	35	
Sanjay, Singh O., Prasad B.N.	Comparative performance analysis of cogeneration gas turbine cycle for different blade cooling means	2009	International Journal of Thermal Sciences	48	7	1432	1440	10.1016/j.ijthermalsci.2008.11.016
Sanjay Y., Singh O., Prasad B.N.	Erratum: Parametric analysis of effect of blade cooling means on gas turbine based	2000	Journal of the Energy Institute	82	1	62		

	cogeneratio cycle (Journal of the Energy Institute (2008) vol. 82 (4))	9						
Sanjay, Singh O., Prasad B.N.	Comparative evaluation of gas turbine power plant performance for different blade cooling means	2009	Proceedings of the Institution of Mechanical Engineers, Part A: Journal of Power and Energy	223	1	71	82	10.1243/09576509JPE671
Sanjay Y., Singh O., Prasad B.N.	Parametric analysis of effect of blade cooling means on gas turbine based cogeneration cycle	2008	Journal of the Energy Institute	81	4	197	204	10.1179/014426008X371040
Sanjay, Singh O., Prasad B.N.	Influence of different means of turbine blade cooling on the thermodynamic performance of combined cycle	2008	Applied Thermal Engineering	28	17-18	231	236	10.1016/j.applthermaleng.2008.01.022
Sanjay, Singh O., Prasad B.N.	Thermodynamic modelling and simulation of advanced combined cycle for performance enhancement	2008	Proceedings of the Institution of Mechanical Engineers, Part A: Journal of Power and Energy	222	6	541	555	10.1243/09576509JPE593
Sanjay Y., Singh O., Prasad B.N.	Energy and exergy analysis of steam cooled reheat gas-steam combined cycle	2007	Applied Thermal Engineering	27	17-18	277	279	10.1016/j.applthermaleng.2007.03.011
Sanjay, Singh O., Prasad B.N.	Performance of integrated combined and cogeneration cycles using latest gas turbines	2004	Proceedings of the ASME Turbo Expo 2004	4		529	536	
Sanjay, Singh O., Prasad B.N.	Thermodynamic evaluation of combined cycle using different methods of steam cooling	2004	American Society of Mechanical Engineers, Power Division (Publication) PWR	35		361	367	10.1115/POWER2004-52152
Sanjay, Singh O., Prasad B.N.	Performance enhancement of advanced combined cycles	2003	Proceedings of the 2003 International Joint Power Generation Conference			523	529	
Sanjay, Sing O., Prasad B.N.	Thermodynamic evaluation of advanced combined cycle using latest gas turbine	2003	American Society of Mechanical Engineers, International Gas	3		95	101	10.1115/GT2003-38096

			Turbine Institute, Turbo Expo (Publication) IGTI					
Sanjay, Singh O., Prasad B.N.	Thermodynamic performance of complex gas turbine cycles	2002	Proceedings of the 2002 International Joint Power Generation Conference			529	535	

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Selected List of Research Publications of SCI-indexed Journals during 2017 & 2018 (2 years)

Year of Publication	Title of Paper	Journal Name / SCI impact factor	Index Status
2017	Thermodynamic Assessment of Advanced SOFC-Blade Cooled Gas Turbine Hybrid Cycle	International Journal of Hydrogen Energy, (Elsevier) SCI Impact Factor: 3.659	SCI- Science Citation Indexed
2017	Thermodynamic assessment of SOFC- ICGT hybrid cycle: Energy analysis and entropy generation minimization	Energy (Elsevier) SCI Impact Factor: 4.801	SCI- Science Citation Indexed
2017	\Novel and Optimal Integration of SOFC- ICGT Hybrid Cycle: Energy Analysis and Entropy Generation Minimization	International Journal of Hydrogen Energy, (Elsevier) SCI Impact Factor: 3.659	SCI- Science Citation Indexed
2017	Comparative Exergoeconomics of Power Utilities: Air-Cooled Gas Turbine Cycle and Combined Cycle Configurations	Energy (Elsevier) SCI Impact Factor: 3.659	SCI- Science Citation Indexed
2017	Thermoeconomic Investigation of Power Utilities: Intercooled Recuperated Gas Turbine Cycle Featuring Cooled Turbine Blades	Energy (Elsevier) SCI Impact Factor: 3.659	SCI- Science Citation Indexed
2017	Exergoeconomic Investigation of Power Utility Based on Air Film Blade Cooled Gas Turbine Cycle	Applied Thermal Engineering.	SCI- Science Citation Indexed
2017	Comparative Exergoeconomic Analysis of Basic and Reheat Gas Turbine with Air Film Blade Cooling	Energy (Elsevier) SCI Impact Factor: 3.659	SCI- Science Citation Indexed
2018	Thermoeconomic investigation of basic and intercooled gas turbine based power utilities incorporating air-film blade cooling	Journal of Cleaner Production, Elsevier Journal	SCI- Science Citation Indexed
2018	Energy and Exergy Analysis of Air-film Cooled Gas Turbine Cycle: Effect of Radiative Heat Transfer on Blade Coolant Requirement	Applied Thermal Engineering. Elsevier Journal	SCI- Science Citation Indexed

TEACHING/COURSEWARE DEVELOPMENT:

- Developed a software package/learning resource to compute the various steam properties for the complete range in Mollier Chart with students.
- Developed a software package / learning resource to compute to residual unbalance in rotors with students.

FOREIGN TRAVEL / ASSIGNMENTS:

- Presented research papers PWR2004-52152 in Baltimore USA(2004). Awarded 100% Travel Grant by AICTE to young teacher below 35 years.
- Presented research paper at World Congress of Engg. in U.C. Berkeley, USA(2008)
- Presented research paper at World Congress of Engg. in U.C. Berkeley, USA(2014)
- Presented research papers at SAE AeroTech Congress in Fort-Worth, USA (2017)
- Lead a team of 12 students as Faculty Advisor to participate in SAE BAJA 2010-Pretoria, South Africa
- Delegate of 21-day MHRD sponsored Academic leadership programme at **Nanyang Technological University Singapore** in association with NIT Trichy.

PROJECT / THESIS GUIDANCE:

Bachelor of Technology Project Guidance : TWENTY plus
Master of Technology (M.S level) thesis Guidance: TWENTY plus

Sponsored Research Project: DST-SERB sponsored Core-Research-Grant of 50lacs

AFFILIATIONS/MEMBERSHIPS OF PROFESSIONAL BODIES:

Member of Society of Automotive Engineers (SAE-2019) Membership No. 7180219925

Institution of Engineers (INDIA) **- Fellow (Membership No. M-145407-7)**

HONORS / DISTINCTION / RECOGNITION BY INTERNATIONAL BODIES:

Invited to feature in the "Marquis Who's Who in Science & Engineering", published by Marquis Who's Who, Publ. New Jersey, USA http://www.marquiswhoswho.com/

VOLUNTARY WORK:

Reviewer of technical papers in Elsevier Journals (ENERGY, ATE, ES&T,ECM,AE etc), ASME amongst others.

REFERENCES:

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- **Prof. Onkar Singh**
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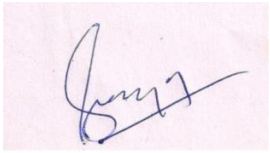

Signature of the faculty