BIO-DATA

: Dr. Roshan Lal Virdi : Professor Department : Mechanical Engineering **Date of Birth** : Feb-1979 **Address for Correspondence** : Department of Mechanical Engineering, Punjabi University, Patiala 147 002 Mobile :8146582067



E-mail : virdirl@gmail.com, virdirl@pbi.ac.in

Areas of Specialization : Minimum Quantity Lubrication, Grinding, 6 Nanofluids

7. Academic Qualifications:

1.

2.

3.

4.

5.

Name

Designation

Sr. No.	Degr	Year	Board/Univ	College	Division	Subjects Taken
	ee		./			
1	Ph.D	2021	PUNJABI	UCoE		Minimum Quantity
			UNIVERSITY			Lubrication
2	M.E.	2005	PANJAB	P.E.C.	First	ROTODYNAMICS
			UNIVERSITY			
3.	B.Tech	2002	PTU	GNDEC	First	Mechanical
				Ludhiana		

8. **Membership of Professional Bodies/Organizations** 1. SOMME

Courses Attended:

				Organisiong	
S.No.	Year	Duration	Title of Course	Institute	Orientation/Refresher/STTP
			RENEWABLE		
			ENERGY BASED	GNDEC	
1	25/12/2006	ONE WEEK	TECHNOLOGIES	LUDHIANA	STTP
			MODELING AND		
			SIMULATION USING	NITTTR	
2	21/07/2008	ONE WEEK	MATLAB	CHANDIGARH	STTP
			Welding:Roadmap		
3	27/12/2010	ONE WEEK	of Excellence	NIT Jalandhar	STTP
			Web Hacking and	NITTTR	
4	28/11/2011	ONE WEEK	Security	CHANDIGARH	STTP
				ASC PANJAB	
		FOUR		UNIVERSITY	
5	19/05/2010	WEEK	GOC	CHANDIGARH	ORIENTATION
		THREE	INFORMATION	ASC PANJAB	
6	05-10-11	WEEK	TECHNOLOGY	UNIVERSITY	REFRESHER

				CHANDIGARH	
				ASC PUNJABI	
		THREE	MECHANICAL	UNIVERSITY	
7	14/5/2012	WEEK	ENGINEERING	PATIALA	REFRESHER
8	18-12-13	ONE WEEK	IC Engines Fuels	NIT Jalandhar	STTP
				ASC PUNJABI	
		THREE	PROFESSIONAL	UNIVERSITY	
9	12-05-14	WEEK	STUDIES	PATIALA	REFRESHER
			METROLOGY		
			LABORATORY	NITTTR	
10	25-05-15	ONE WEEK	PRACTICES	CHANDIGARH	STTP
			NANOTECHNOLOGY:		
			Developments &	NITTTR	
11	16-05-16	ONE WEEK	Challenges	CHANDIGARH	STTP
				NITTTR	
12	28-11-16	ONE WEEK	CAD/ACM	Kolkata	STTP
				ASC PUNJABI	
			Research	UNIVERSITY	
13	24-11-17	ONE WEEK	Methodology	PATIALA	STTP
14	11-12-17	ONE WEEK	3D Animation	NITTTR Bhopal	STTP
				NITTTR	
15	26-11-18	ONE WEEK	Student Psychology	Chennai	STTP
			Sustainable		
16	19-03-19	ONE DAY	Manufacturing	IIT ROPAR	WORKSHOP
17	29-09-19	ONE DAY	DM	AICTE	WORKSHOP
			Theory of Plasticity		
18	25-11-19	ONE WEEK	and its Applications	IIT Bombay	STTP

9. Medals/Awards/Honours/Received

i)

10. Scholarships: i) NIL

11. Details of Experience:

S. No.	Name of the	Position Held	Duration	Major Job Responsibilities and Nature of Experience
1.	Punjabi University Patiala	PROFESSOR	06/2023 – Till Date	Teaching and Research
2.	Punjabi University Patiala	ASSOCIATE PROFESSOR	06/2019 – 06/2023	Teaching and Research
3.	Punjabi University Patiala	ASSISTANT PROFESSOR	08/2008 – 06/2019	Teaching and Research
4.	MIMIT, Malout (Govt. of Punjab)	Assistant Prof.(Lecturer)	06/2006- 08/2008	Teaching and Research
5.	INDO GLOBAL	Lecturer	08/2005- 06/2006	Teaching and Research

12. Published Work (Please specify numbers only) :

a. Research Papers i)

National = 03

- ii) International = 18.
 iii) Conference/Seminar Presentation = 22
 iv) Book Chapters =2
- v) Books=2
- 13. R & D Projects
- 14. Invited Talks : 00

15.	Ph.D. Students		
	Guided	:	One
	Under guidance	:	Two

16. M.Phil./M.TECH Students Guided: 25

17. List of Papers/Courses taught at P.G. and U.G. Level

S. No.	Paper	Class
1.	CAD&M	M.Tech.
2.	PDD	M.Tech.
3.	SOM	B.Tech.
4.	MV	B.Tech.
5.	Machine Design	B.Tech.
6.	Fluid Machinery	B.Tech.
7	Engg. Drawing	B.Tech.
8.	Machine Drawing	B.Tech.
9.	Operations Research	B.Tech.

10.	Operations Research	M.Tech.
11.	Fluid MECHANICS	B.Tech.

18. Technical Proficiency

1. AutoCAD, MATLAB, Solid Works

19. List of Papers Published (A) Books One

(B) Research Papers	Published:
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Journals:

Journ						
S.No	Year of Publicatio				Internation al or	Remark
	n	Author	Title of Paper	Journal Detail	National	S
1	2010	Khushdeep Goyal, R L Virdi, Jatinder Madan	Concept and Guidelines of Design for Manufacturability: A Shift from Traditional Design Concept	Indian Journal of Engineering, Science and Technology,ISS N: 0973-6255	Indian	Vol 4(1), pp 86-89
2	2011	Khushdeep Goyal, Roshan Lal Virdi	FINDING REACHABLE WORKSPACE OF A ROBOTIC MANIPULATOR BY EDGE DETECTION ALGORITHM		Indian	UGC
3	2012	Roshan Lal Virdi	ANALYSIS FOR THE MANUFACTURABILIT Y OF MECHANICAL PARTS AND ITS FUNCTIONALITY	ASIAN JOURNAL OF ENGINEERING AND APPLIED TECHNOLOGY. ISSN 2249-068X	Indian	UGC
4	2014	Amandeep Singh ,Roshan Lal Virdi ,Khushdee p Goyal	To Study the Slurry Erosion Behaviour of Hard Faced Alloy SS304	Manufacturing Science and Technology 2(6): 111-115, 2014	International	UGC
5	2015	Gurlovleen Singh, Roshan Lal Virdi, Khushdeep Goyal	Experimental Investigation of Slurry Erosion Behaviour of Hard Faced AISI 316L Stainless Steel	Universal Journal of Mechanical Engineering 3(2): 52-56, 2015	International	Scopus
6	2016	ROSHAN LAL VIRDI	MICROSTRUCTURAL EVOLUTION USING FRICTION STIR PROCESSING: REVIEW	Journal of Emerging Trends in Engineering, Science and Technology,	Vol 4, No. 1, 2016 International	ISSN 2394- 5354,
7	2016	Roshan Lal Virdi ,Sukhpal Singh Chatha ,Hazoor Singh	Potential of Nanofluids as Cutting Fluids - An evolution	ASIAN RÉVIEW OF MECHANICAL ENGINEERING . ISSN 2249-6289 Vol 5 No.1	Vol 5, No. 1, 2016 International	ISSN 2249- 6289

		Roshan Lal Virdi	Experimental Investigation of Wear	International Journal of Latest	e- ISSN:2278-	
		Virdi	Rate and Microstructural properties of 5754 Aluminium Alloy by Friction Stir Processing (November 2017)	Trends in Engineering and Technology (UGC List)	621X	
8	2017		,			UGC
9	2018	Roshan Lal Virdi	EFFECT OF DIFFERENT PARAMETERS ON CUTTING FORCES AND TEMPERATURE DURING GRINDING PROCESS USING MINIMUM QUANTITY LUBRICATION (July -2018)	Journal of Emerging Technologies and Innovative Research (Serial No. 63975)	ISSN: 2349- 5162	UGC
10	2018	Roshan Lal Virdi	OPTIMIZATION OF PROCESS PARAMETERS DURING GRINDING AISI-4130 STEEL USING MINIMUM QUANTITY LUBRICATION (August-2018)	Journal of Emerging Technologies and Innovative Research	ISSN: 2349- 5162	UGC
		Roshan Lal Virdi	EXPERIMENTAL INVESTIGATION OF SURFACE ROUGHNESS FOR MINIMUM QUANTITY LUBRICATION GRINDING UNDER SOYABEAN, RICEBRAN AND CANOLA OIL (January 2019)	Journal of Emerging Technologies and Innovative Research	ISSN: 2349- 5162	
11	2019		,			UGC
	00.00	Roshan Lal Virdi	Environment Friendly Minimum Quantity Lubrication Technique (November 2018)	Journal of Emerging Technologies and Innovative	(ISSN: 2249-068X	
12	2018	Roshan Lal Virdi ,Sukhpal Singh Chatha	Performance Evaluation of Inconel 718 under vegetable oils based nanofluids using Minimum Quantity	Research Material Research	International	UGC
13	2019	,Hazoor Singh	Lubrication Grinding	Express		SCI
	2222	Roshan Lal Virdi ,Sukhpal Singh Chatha	Experiment evaluation of grinding properties under Al2O3 nanofluids in minimum quantity	Motoriols To do	International	Community
14	2020	,Hazoor Singh Roshan Lal	lubrication Processing	Materials Today Advances in	International	Scopus
15.	2020	Virdi ,Sukhpal	Characteristics of	Materials ansd		eSCI

		Singh Chatha	Different Vegetable Oil-	Processing		
		,Hazoor Singh	based Nanofluid MQL	Technologies		
		_	for Grinding of Ni-Cr	(2020)		
			Alloy			
			Experimental	Tribology International	International	
			investigations on the	(2020)		
			tribological and			
			lubrication behaviour of			
			Minimum Quantity			
			Lubrication technique in			
		Roshan Lal	grinding of Inconel 718			
		Virdi ,Sukhpal Singh Chatha	alloy			
16.	2020	,Hazoor Singh				SCI
			Machining performance	Journal of Manufacturing	International	
			of Inconel-718 alloy	Processes (2020)		
			under the influence of			
			Nanoparticles based			
		Roshan Lal Virdi ,Sukhpal	Minimum Quantity			
17.	2020	Singh Chatha ,Hazoor Singh	Lubrication Grinding			SCI
			Performance evaluation of Nanofluid based	Advances in Manufacturing	International	
			Minimum Quantity	Wanutacturing		
		Dechanical	Lubrication Grinding of			
		Roshan Lal Virdi ,Sukhpal	Ni-Cr(Inconel-718) alloy under the influence of			
10	0004	Singh Chatha	CuO Nanoparticles			
18.	2021	,Hazoor Singh	Investigation of solid		International	SCI
		Roshan Lal	particle erosion			
		Virdi ,Parvinkal Singh,Pardeep	behaviour of SS-304 under different			
19.	2022	Kumar	conditions	Materials Today		Scopus
			Microstructural and	Journal of Electrochemical	International	
		Roshan Lal Virdi ,Rakesh	mechanical properties of CNT-reinforced	Science and		
		Bhatia, Hazoor	ZrO2-Y2O3coated	Engineering (2022)		
20.	2022	Singh,Sandeep Kumar	boiler tube steel T-91			Sconuc
20.	2022	Numai	Burnishing with	Journal of	International	Scopus
			Grinding Wheel	Thermal Spray		
			Shaped Alloy Tool and its Effect on Surface	Technology		
		Roshan Lal	Integrity and Erosion			
		Virdi ,Parvinkal Singh,Pardeep	Behavior of WC-10Co- 4CrHVOF Coating			
21.	2022	Kumar				SCI
		Roshan Lal	A review on Minimum	Journal of the Brazilian Society	International	
22.	2023	Virdi , Amritpal, Sukhpal Singh	Quantity Lubrication technique application	of Mechanical		SCI
<i>LL</i> .	2023	Sumpa Singi				001

		Chatha ,Hazoor Singh	and challenges in grinding process using environment friendly nanofluids	Sciences and Engineering		
23.	2022	Roshan Lal Virdi ,Parvinkal Singh,Pardeep Kumar	Effect of In-process Cryogenic Cooling in the Burnishing Process on the Solid Particle Erosion Behaviour of HVOF Cermet Coating	Journal of Thermal Spray Technology	International	SCI

Conferences:

S.N	Year of Publicat				Internati onal or	
0.	ion	Author	Title of Paper	Journal Detail	National	Remarks
	CONFERE	NCES	-		L	
1	2008	Parlad Kumar, Roshan Lal Virdi, Ashish Mallik	Experimental Performance Analysis of an Engine using Traditional Diesel and Biodiesel from Palm Oil and Waste Cooking Oil	International Conference on Recent Developments in Mechanical Engineeing 23-25Jan 2008 held at SUSCET Tangori	Internati onal	Proceedi ngs
2	2009	Khushdeep Goyal, Roshan Lal Virdi	Computer Aided Production Engineering-A Subsystem of CIM	National Conference on INNOVATIVE DEVELOPMENTS IN ENGINEERING APPLICATIONS (26- 27MARCH2009)	National	Proceedi ngs
3	2010	Roshan Lal Virdi, Jatinder Madan, Khushdeep Goyal	Concepts and guidelines of design for manufacturability: A shift from traditional design.	National Conference on Advancements and Futuristic Trends in Mechanical and Materials Engineering (19-20Feb 2010)	National	Proceedi ngs
4	2011	Khushdeep Goyal, Roshan Lal Virdi, Deepak Pandey, Gurdarshan Singh	Electro Discharge Machining: A Reiew	National Conference on Advanced Manufactur4ing Technologies, CIET, Rajpura, January, 2011	National	Proceedi ngs
5	2011	Khushdeep Goyal, Roshan Lal Virdi, Sandeep	ENHANCING THE USE OF COMPUTERS FROM CAD/CAM TO ACTUAL	Chitkara University, Rajpura	Internati onal	Proceedi ngs

		Kumar]
		Kumar , Chamkaur	MANUFACTURING			
		Chamkaur	_			
		Jindal	A MECHANICAL			
			INDUSTRY			<u> </u>
6	2011	Khushdeep	FINDING		National	Proceedi
		Goyal,	REACHABLE	National Conference		ngs
		Roshan Lal	WORKSPACE OF A	on Advancements and		
		Virdi	ROBOTIC	Futuristic Trends in		
			MANIPULATOR BY	Mechanical and		
			EDGE DETECTION	Materials Engineering		
			ALGORITHM	(7-8 October2011)		
7	2012	Roshan Lal	ANALYSIS FOR	International	Internati	Proceedi
		Virdi	THE	Conference on	onal	ngs
			MANUFACTURA	Advancements and		_
			BILITY OF	Futuristic Trends in		
			MECHANICAL	Mechanical and		
			PARTS AND ITS	Materials Engineering		
			FUNCTIONALITY	(October 5-7, 2012)		
8	2012	Roshan Lal	GUIDELINES FOR	International	Internati	Proceedi
		Virdi	DESIGN FOR	Conference on	onal	ngs
			MANUFACTURING	Advancements and		
			AND ASSEMBLY: A	Futuristic Trends in		
			REVIEW	Mechanical and		
				Materials Engineering		
				(October 5-7, 2012)		
9	2013		EXPERIMENTAL		Internati	Proceedi
			INVESTIGATION		onal	ngs
			OF			
			MECHANICAL			
			PROPERTIES OF			
			JOINTS			
			FABRICATED BY	Tu (
			FSW OF	International		
		Logizinot	ALUMINUM ALLOYS 5083	Conference on Advancements and		
		Jaskirat	ALLO IS 5085 AND 6063 WITH	Futuristic Trends in		
		Singh ,Rosh an Lal	ROUND AND	Mechanical and		
		Virdi ,Khush	SQUARE TOOL	Materials Engineering		
		deep Goyal	PIN PROFILES	(October 3-6, 2013)		
			RECENT	International	Internati	Proceedi
			DEVELOPMENTS	Conference on		
		Jaskirat	IN FRICTION	Advancements and	onal	ngs
		Singh ,Rosh	STIR WELDING	Futuristic Trends in		
		an Lal	OF ALUMINUM	Mechanical and		
		Virdi ,Khush	ALLOYS: A	Materials Engineering		
10	2013	deep Goyal	REVIEW	(October 3-6, 2013)		
10	2013		A SYSTEM FOR		Internati	Proceedi
	2014	Vijay Kumar Bash	COMPUTER AIDED	International	onal	ngs
1		Kumar,Rosh		Conference on	Una	1163
		on Lal		A dyon comorte and		1
		an Lal Virdi ,	GATING DESIGN FOR SINGLE AND	Advancements and Futuristic Trends in		

				Mechanical and		
			MULTI-CAVITY			
			INJECTION	Materials Engineering		
			MOULDS	(October 8-6, 2013)		
12	2014	Amandeep			National	Proceedi
		Singh		NATIONAL		ngs
		,Roshan Lal		CONFERENCE ON		
		Virdi	SLURRY EROSION	MECHANICAL		
		,Khushdeep	OF HYDRO POWER	ENGINEERING(7NO		
		Goyal	PLANTS: A REVIEW	V,2014)		
13	2016	Roshan Lal		International	Internati	Proceedi
		Virdi		Conference on	onal	ngs
		,Sukhpal		Advancements and		0-
		Singh	Potential of	Futuristic Trends in		
		Chatha	Nanofluids as	Mechanical and		
		,Hazoor	Cutting Fluids - An	Materials Engineering		
		Singh	evolution	(Feb 25-27, 2016)		
14	2016	8	TO COMPARE	(Internati	Proceedi
	2010		AND		onal	ngs
			OPTIMIZATION		onar	1163
			OF MATERIAL			
			REMOVAL RATE	International		
		Roshan Lal	OF	Conference on		
		Virdi,	CRYOGENICALL	Advancements and		
		Prince	Y TREATED AND	Futuristic Trends in		
		Chawla,	UNTREATED	Mechanical and		
			COPPER TOOLS	Materials Engineering		
		Supinderjit	USING EDM	(Feb 25-27, 2016)		
15	2010	Singh		(Feb 25-27, 2010)	latora at:	Dracadi
15	2016		TO COMPARE		Internati	Proceedi
			AND		onal	ngs
			OPTIMIZATION	Internetional		
		D1 I -1	OF TOOL WEAR	International		
		Roshan Lal	RATE OF	Conference on		
		Virdi,	CRYOGENICALL	Advancements and		
		Prince	Y TREATED AND	Futuristic Trends in		
		Chawla,	UNTREATED	Mechanical and		
		Supinderjit	COPPER TOOLS	Materials Engineering		
		Singh	USING EDM	(Feb 25-27, 2016)		
16	2017			International		
		Roshan Lal	Effect on Hardness	Conference on	SUS	
		Virdi,	and Tensile	Advancements and	Tangori	
		Vijayender	Strength of 5754	Futuristic Trends in		
		Singh	Aluminium Alloy	Mechanical and		
			by Friction Stir	Materials Engineering		Internati
			Processing	(Nov 2-4, 2017)		onal
17	2018			International		
			Experimental	Conference on		
		Roshan Lal	Evaluation of the	Advances in Business	ABES	
		Virdi	forces in Minimum	and Engineering for	Noida	
			Quantity	Sustainability March		Internati
			Lubrication on	2018		onal

			machining of AISI			
			4130 using			
			vegetable oils			
18	2018		0			
			Effect of Minimum			
			Quantity	International		
		Roshan Lal	Lubrication on	Conference on	ABES	
		Virdi	temperature	Advances in Business	Noida	
			dissipation in	and Engineering for		
			machining of AISI	Sustainability March		Internati
			4130	2018		onal
19	2018		VEGETABLE OIL		Panjab	
			BASED		Universit	
		Roshan Lal	NANOFLUIDS	International	y ĩ	
		Virdi	UNDER	Conference on	Campus	
		,Sukhpal	MINIMUM	Advancements and	Bajwara	
		Singh Chatha	QUANTITY	Futuristic Trends in		
		Hazoor	LUBRICATION MACHINING	Mechanical and Materials Engineering		Internati
		Singh	PROCESS	(Nov 15, 2018)		onal
20	2018	Roshan Lal	TROCLOS	International	Panjab	Unai
20	2010	Virdi	ENVIRONMENT	Conference on	Universit	
		,Sukhpal	FRIENDLY -	Advancements and	y	
		Singh	MINIMUM	Futuristic Trends in	Campus	
		Chatha	QUANTITY	Mechanical and	Bajwara	
		,Hazoor	LUBRICATION	Materials Engineering		Internati
		Singh	TECHNIQUE	(Nov 15, 2018)		onal
21	2019		Performance		IIT Ropar	
			evaluation of		_	
		Roshan Lal	Minimum Quantity	International		
		Virdi	Lubrication	Conference on		
		,Sukhpal	grinding of hard to			
		Singh	machine material	Futuristic Trends in		
		Chatha	under the influence	Mechanical and		
		,Hazoor	of CuO based	Materials Engineering		Internati
	2010	Singh	Nanofluids	(Dec 5-7, 2019)	UT D -	onal
22	2019	Dochon Iol	Minimum Quantity Lubrication	International	IIT Ropar	
		Roshan Lal Virdi	Technique For	International Conference on		
		,Sukhpal	Machining	Advancements and		
		,Sukipai Singh	Processes -	Futuristic Trends in		
		Chatha	Alternative to	Mechanical and		
		,Hazoor	Conventional	Materials Engineering		Internati
		Singh	Cooling System	(Dec 5-7, 2020)		onal
23	2020	Roshan Lal	Minimum Quantity	International	MRSPTU	
		Virdi	Lubrication	Conference on	Bathinda	
		,Sukhpal	technique: An	Advancements and		
		Singh	emerging	Futuristic Trends in		
		Chatha	alternative to	Mechanical and		
		,Hazoor	conventional	Materials Engineering		Internati
		Singh	cooling techniques	(Dec 19, 2020)		onal

24	2020	Roshan Lal	Performance of	International	MRSPTU	
		Virdi	Minimum Quantity	Conference on	Bathinda	
		,Sukhpal	Lubrication (MQL)	Advancements and		
		Singh	technique compared	Futuristic Trends in		
		Chatha	to other conditions	Mechanical and		
		,Hazoor	of lubrication	Materials Engineering		Internati
		Singh		(Dec 19, 2019)		onal

Book Chapters:

1. Singh B., Singh H., Lal Virdi R., Goyal K. (2022) Experimental Investigation of Vegetable Oils-Based Minimum Quantity Lubrication Grinding by Using Ionic Liquid. In: Srinivasa Pai P., Krishnaraj V. (eds) Sustainable Machining Strategies for Better Performance. Lecture Notes in Mechanical Engineering. Springer, Singapore. https://doi.org/10.1007/978-981-16-2278-6_16

2. Singh H., Singh B., Virdi R.L. (2022) Exploration of Effectiveness of Ionic Liquid Adopted as an Additive to the Vegetable Oils. In: Srinivasa Pai P., Krishnaraj V. (eds) Sustainable Machining Strategies for Better Performance. Lecture Notes in Mechanical Engineering. Springer, Singapore. https://doi.org/10.1007/978-981-16-2278-6_15

3 R.L. Virdi, A. Pal, S.S. Chatha, H.S. Sidhu, (2023) An Environment-Friendly Emerging Technique for Machining: Minimum Quantity Lubrication, in: Sustainable Material, Design, and Process, CRC Press, pp. 169-184.