



DR. AMRIT PAL

ASSISTANT PROFESSOR
MECHANICAL ENGINEERING DEPARTMENT
GZSCCET, MRSPTU, BATHINDA, PUNJAB, INDIA.

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EDUCATION

- 2014 - 2022** Ph.D. (Doctorate of Philosophy in Mechanical Engineering)
Punjabi University, Patiala, Punjab, India.
Research: Performance of Minimum Quantity Lubrication
Technique in Drilling of Stainless Steel
Supervisor: Dr. Hazoor Singh Sidhu
Dr. Sukhpal Singh Chatha
- 2011 - 2013** M.Tech (Master of Technology in Mechanical Engineering)
Yadavindra College of Engineering, Talwandi Sabo, Bathinda,
Punjab, India
Punjabi University, Patiala, Punjab, India
Research: To Investigate the Effect of Minimum Quantity of
Lubrication (MQL) on Tool Wear and Surface Roughness in
Drilling of Plain Carbon Steel
Supervisor: Dr. Sukhpal Singh Chatha
- 2007- 2011** B.Tech (Bachelor of Technology in Mechanical Engineering)
Yadavindra College of Engineering, Talwandi Sabo, Bathinda,
Punjab, India
Punjabi University, Patiala, Punjab, India.

PROFESSIONAL EXPERIENCE

- 2013 - Current** Assistant Professor
Department of Mechanical Engineering
Giani Zail Singh Campus College of Engineering and Technology,
Maharaja Ranjit Singh Punjab Technical University, Bathinda,
Punjab, India.

INDUSTRIAL TRAINING

- 2011** Mechanical Engineering Trainee
Swaraj Engines limited, SAS Nagar, Mohali, Punjab, India.

PROGRAMMING & COMPUTER SKILLS

- Adept at Computer Aided Designing & Drafting using Solid Works & PRO-E
- Origin pro 8
- Proficient in Microsoft Office Applications specifically Microsoft Word, Spreadsheets & Power Point
- Decent Knowledge of AxioVison Rel. 4.8 & Gwyddion software.

SUBJECT AREAS

- Manufacturing Sciences
- Material Science
- Manufacturing Practices
- Machine Drawing using CAD
- Non-destructive Testing
- Non-traditional Machining Processes
- Mechanical Measurements & Metrology

HIGHLIGHTS OF RESEARCH

- **Cumulative Impact Factor: 32.516**
- **Total Citations: 195**
- **H-index: 6**
- **i10-index: 5**
- **Scopus id: 57191408263**
- **Orcid id: 0000-0003-4788-4344**

INTERNATIONAL AFFILIATIONS/REVIEWER

- Journal of Cleaner Production (Elsevier) (**Impact factor: 9.297**)
- Tribology International (Elsevier) (**Impact factor: 4.872**)
- Alexandria Engineering Journal (Elsevier) (**Impact factor: 3.732**)
- Part J: Journal of Engineering Tribology (SAGE Journals) (**Impact factor: 1.674**)

CERTIFICATION

- Certificate of Outstanding Contribution in Reviewing
Journal of Cleaner Production (Elsevier) (**Impact factor: 9.297**)

RESEARCH AREAS

- Nanotechnology
- Green/ Sustainable/ Lean Manufacturing
- Advanced Materials
- Materials Engineering
- Manufacturing Engineering

RESEARCH GUIDED

Course	Title of the Research
M.Tech	To investigate the effect of Minimum Quantity Lubrication (MQL) by applications of nano-particles (SiO ₂) in turning medium carbon steel.
M.Tech	A study of surface integrity for EN31 using Minimum Quantity Lubrication (MQL) technique in grinding process.
M.Tech	Investigation the effect of Minimum Quantity Lubrication on grinding wheel wear and surface roughness of AISI-1044 steel.
M.Tech	Optimization of milling parameters under dry and MQL conditions.

LIST OF SELECTIVE PUBLICATIONS

Publications in Journals (SCI Publications)

1. **Amrit Pal**, Sukhpal S. Chatha and Hazoor S. Sidhu, (2021) “Performance evaluation of the minimum quantity lubrication with Al₂O₃-mixed vegetable-oil-based cutting fluid in drilling of AISI 321 stainless steel,” *Journal of Manufacturing Processes*, Vol. 66, pp. 238-249 [*Elsevier, Impact Factor: 5.010*] <https://doi.org/10.1016/j.jmapro.2021.04.024>.
2. **Amrit Pal**, Sukhpal S. Chatha and Hazoor S. Sidhu, (2021) “Performance evaluation of various vegetable oils and distilled water as base fluids using eco-friendly MQL technique in drilling of AISI 321 stainless steel,” *International Journal of Precision Engineering and Manufacturing-Green Technology*, pp. 1-20 [*Springer, Impact Factor: 5.671*] <https://doi.org/10.1007/s40684-021-00355-2>.
3. **Amrit Pal**, Sukhpal S. Chatha and Hazoor S. Sidhu, (2021) “Tribological characteristics and drilling performance of nano-MoS₂-enhanced vegetable oil-based cutting fluid using eco-friendly MQL technique in drilling of AISI 321 stainless steel,” *Journal of the Brazilian Society of Mechanical Sciences and Engineering*, Vol. 43(4), No. 189, pp. 1-20 [*Springer, Impact Factor: 2.220*] <https://doi.org/10.1007/s40430-021-02899-5>.
4. **Amrit Pal**, Sukhpal S. Chatha and Hazoor S. Sidhu, (2020) “Experimental investigation on the performance of MQL drilling of AISI 321 stainless steel using nano-graphene enhanced vegetable-oil-based cutting fluid,” *Tribology International*, Vol. 151, pp. 1-10 [*Elsevier, Impact Factor: 4.872*] <https://doi.org/10.1016/j.triboint.2020.106508>.

5. **Amrit Pal**, Sukhpal S. Chatha and Kamaldeep Singh, (2020) “Performance evaluation of minimum quantity lubrication technique in grinding of AISI 202 stainless steel using nano-MoS₂ with vegetable-based cutting fluid,” *The International Journal of Advanced Manufacturing Technology*, Vol. 110, pp. 125-137 [Springer, Impact Factor: 3.226] <https://doi.org/10.1007/s00170-020-05840-7>.
6. Sukhpal S. Chatha, **Amrit Pal** and Tarjeet Singh, (2016) “Performance evaluation of aluminium 6063 drilling under the influence of nanofluid minimum quantity lubrication,” *Journal of Cleaner Production*, Vol. 137, pp. 537-545 [Elsevier, Impact Factor: 9.297] <https://doi.org/10.1016/j.jclepro.2016.07.139>.
7. **Amrit Pal**, Sukhpal S. Chatha and Hazoor S. Sidhu, (2021) “Assessing the lubrication performance of various vegetable oil-based nano-cutting fluids via eco-friendly MQL technique in drilling of AISI 321 stainless steel,” *Journal of the Brazilian Society of Mechanical Sciences and Engineering*, Vol. 44, No. 148, pp. 1-26 [Springer, Impact Factor: 2.220] <https://doi.org/10.1007/s40430-022-03442-w>.

Other International Journal Publications

8. **Amrit Pal**, Sukhpal S. Chatha and Hazoor S. Sidhu, (2018) “Application of eco-friendly cutting fluids through small quantity lubrication technique: A study,” *Asian Journal of Engineering and Applied Technology*, Vol. 7, pp. 116-120, [ISSN 2249-068X].
9. **Amrit Pal** and Sukhpal S. Chatha, (2017) “Influence of minimum quantity lubrication on cutting temperature in drilling of plain carbon steel (EN8 steel),” *International Journal of Materials Science and Engineering*, Vol. 8(1), pp. 61-65.
10. Anurag Goyal, Jasvir S. Tiwana and **Amrit Pal**, (2014) “A review study on minimum quantity lubrication in machining,” *International Journal of Recent Development in Engineering and Technology*, Vol. 2, pp. 37- 40, [ISSN 2347 - 6435 (Online)].

Publications in Conferences

1. Sukhpal S. Chatha and **Amrit Pal**, (2015) “The effect of minimum quantity lubrication on drilling performance - A review,” *National Conference on Latest Developments in Materials, Manufacturing and Quality Control*, pp. 212-215, [ISBN 978-93-5196-055-3], (Feb. 19-20, 2015), organized by Giani Zail Singh Campus College of Engineering and Technology, Bathinda, Punjab-INDIA.

2. **Amrit Pal** and Sukhpal S. Chatha, (2014) “Trends in coolant-lubrication techniques used in metal machining,” *National Conference on Latest Developments in Materials, Manufacturing and Quality Control*, pp. 168-172, [ISBN 978-93-5156-187-3], (Feb. 13-14, 2014), organized by Giani Zail Singh Campus College of Engineering and Technology, Bathinda, Punjab-INDIA.
3. **Amrit Pal** and Sukhpal S. Chatha, (2013) “Role of minimum quantity lubrication in metal machining –A review,” *International Conference on Advancements and Futuristic Trends in Mechanical and Materials Engineering* (Oct. 3-6, 2013), organized by Punjab Technical University, Jalandhar-Kapurthala Highway, Kapurthala, Punjab-INDIA.

Books Published

- **Amrit Pal** and Sukhpal S. Chatha, (2014) “Role of minimum quantity lubrication in metal machining,” *Lambert Academic Publishing*, [ISBN: 978-3-659-53265-8].

PAPERS PRESENTED IN CONFERENCES

1. **Amrit Pal**, (2017) “Performance of vegetable oil-based cutting fluids during machining under minimum fluid application – A Review,” *International Conference on Advancements and Futuristic Trends in Mechanical and Materials Engineering* (Nov. 2-4, 2017), organized by SUS Tangori, Mohali, Punjab-INDIA.
2. **Amrit Pal**, (2017) “A review of machining processes under minimum quantity lubrication technique using nano-cutting fluids,” *International Conference on Advancements and Futuristic Trends in Mechanical and Materials Engineering* (Nov. 2-4, 2017), organized by SUS Tangori, Mohali, Punjab-INDIA.
3. **Amrit Pal**, (2015) “The effect of minimum quantity lubrication on drilling performance - A review,” *National Conference on Latest Developments in Materials, Manufacturing and Quality Control*, pp. 212-215, [ISBN 978-93-5196-055-3], (Feb. 19-20, 2015), organized by Giani Zail Singh Campus College of Engineering and Technology, Bathinda, Punjab-INDIA.
4. **Amrit Pal** (2014) “Trends in coolant-lubrication techniques used in metal machining,” *National Conference on Latest Developments in Materials, Manufacturing and Quality Control*, pp. 168-172, [ISBN 978-93-5156-187-3], (Feb. 13-14, 2014), organized by Giani Zail Singh Campus College of Engineering and Technology, Bathinda, Punjab-INDIA.

CONFERENCES ORGANIZED

- National Conference on “***Latest Developments in Materials, Manufacturing and Quality Control (MMQC – 14)***,” (13th-14th February, 2014) Sponsored by TEQIP-II at Giani Zail Singh Campus College of Engineering and Technology, Bathinda, Punjab-INDIA.

FDP/ STC/ SEMINAR ATTENDED

- A Faculty Development Programme (FDP) on “***Research Methodology***” (23 to 27 August 2021) *Sponsored by AICTE, New Delhi.*
- A Short Term Course (STC) on “***Implications & Realities of Industry 4.0***” (21 to 25 December 2020) *Sponsored by TEQIP III.*
- A Faculty Development Programme (FDP) on “***Molecular Manufacturing***” (23 to 27 November 2020) *Sponsored by AICTE, New Delhi.*
- One Day Webinar on “***Online Teaching and Effective Learning: Bridging the Gap***” (23 May 2020) *Sponsored by Society of Materials & Mechanical Engineers (SOMME).*
- A Short Term Course (STC) on “***Optimization using MATLAB through ICT***” (24 to 28 October 2016) *Sponsored by National Institute of Technical Teachers Training and Research (NITTR), Chandigarh.*
- A Faculty Development Programme (FDP) on “***Pedagogy in Education***” (20 to 24 February 2016) *Sponsored by Maharaja Ranjit Singh State Technical University (MRSSTU), Bathinda.*
- A Short Term Course (STC) on “***Recent Trends in Automobile Engineering through ICT***” (16 to 20 March 2015) *Sponsored by National Institute of Technical Teachers Training and Research (NITTR), Chandigarh.*
- A Short Term Course (STC) on “***Advanced Research in Material, Manufacturing and Mechanical Engineering***” (27 to 31 October 2014) *Sponsored by TEQIP II.*
- A Short Term Course (STC) on “***Recent Trends in Materials, Manufacturing and Safety***” (02 to 06 December 2013) *Sponsored by TEQIP II.*

PERSONAL INFORMATION

- **Name:** **Amrit Pal**
- **D.o.B.:** **22/06/1988**
- **Sex:** **Male**
- **Nationality:** **Indian**
- **Permanent Address:** #12/C, Shaheed Bhagat Singh nagar, Talwandi Sabo, District Bathinda, Punjab, India, Postal Code: 151302.
E-mail: amritpaul123@gmail.com
Contact Number: +91-94632-58502

REFERENCES

Sr. No.	Name	Designation	Address	Contact Details
1.	Dr. Sukhpal Singh Chatha	Assistant Professor	Department of Mechanical Engineering, Yadavindra College of Engineering (YCoE), Talwandi Sabo, Punjab, India, Postal code 151302.	sukhpal_chatha@yahoo.com +91-94636-27042
2.	Dr. Hazoor Singh Sidhu	Professor	Department of Mechanical Engineering, Yadavindra College of Engineering (YCoE), Talwandi Sabo, Punjab, India, Postal code 151302.	hazoors@yahoo.com +91-81462-60200
3.	Dr. Roshan Lal Virdi	Associate Professor	Department of Mechanical Engineering, Punjabi University Patiala, Punjab, India, Postal code 147002.	virdirl@gmail.com +91-94173-12067
4.	Dr. Balwinder Singh Sidhu	Professor	Department of Mechanical Engineering, GZSCCET-MRSPTU, Bathinda, Punjab, India, , Postal code 151001.	drbwssidhu07@gmail.com +91-94639-36756