

BIO-DATA

Er. Kulbir Singh Sandhu

1. **Name** : **KULBIR SINGH SANDHU**
2. **Designation** : **ASSISTANT PROFESSOR**
3. **Department** : **MECHANICAL ENGG.**
4. **Address for Correspondence:** **Department of Mechanical Engg.**
Punjabi University
Patiala-147002, Punjab, India.
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- E-Mail** : kulbirsandhu4@gmail.com , kulbirsandhu@pbi.ac.in
5. **Area of Specialisation** : **Manufacturing Processes, Surface Properties, Thermodynamics, Material Science,**
6. **Academic Qualification** **M. Tech (Mechanical), Ph. D (pursuing)**
- B. Tech (Mechanical) in 2004 from SUSCET, Tangori, (Punjab Technical University, Jalandhar).
- M. Tech (Mechanical)Part-time in 2010 from Department of Mechanical Engg., YCOE, Punjabi University Patiala.
- Ph.D (Mechanical)Part-time pursuing from 2014 at Punjabi University, Patiala.

7. **Memberships of Professional Bodies/Organisations held/hold**

- i. **Member “American Ceramic Society (ACerS), USA**
- ii. **Life Member “American Nano Society”, USA**
- iii. **Life Member “Indian Society of Technical Education (ISTE)”, India**
- iv. **Life Member “International Association of Engineers”, Singapore**
- v. **Member “American Society of Mechanical Engineers”, USA**
- vi. **Life Member “Society of Materials and Mechanical Engineers”, USA**

8. **Teaching/Research Experience**

Sr. No.	Name of Institute/Employer	Position Held	Duration	Major Responsibilities and Nature of Experience	Job and of
1.	Punjabi University	Assistant Professor	02-08-2011 to till date	Teaching and Research	
2.	Baba Farid College of Engineering and Technology, Bathinda	Lecturer/Assistant Professor	04-08-2008 to 01.08.2011	Teaching and Research	
3.	Baba Farid College of Engineering and Technology, Bathinda	Workshop Superintendent(Dual responsibility)	04-08-2008 to 01.08.2011	Instructing, Production, Maintenance	
4.	Guru Teg Bahadur Khalsa Institute of Engineering and Technology, Chappianwali, Malout	Lecturer	01-09-2006 to July 2008	Teaching and Research	

Incharge, Research and Skill Development Centre Punjabi University(Additional Responsibility)

9. Published Work (Number only)

Research papers	: 5 (Referred International Journals)
Conference/Seminar Presentations	: 20(International-3)
Books	: 01

RESEARCH/Travel GRANTS : 03

(Punjab Technical University-01, Baba Farid College of Engineering and Technology-01, Punjabi University-01)

10. Session Chair/Resource Person/Invited Talk of Conference/Workshop/Seminar

Sr. no.	Name & venue of the conference/Talk	Chair/Invited Talk
1.	National Conference on “ Latest Advancements in Science, Engineering and Research 2011 (LASER'11) ” at Baba Farid College of Engineering and Technology, between May, 26 th -27 th 2011, Bathinda-151001, Punjab, India.	Session Co-Chair
2.	National Conference on “ Recent Advancements and Innovations in Science and Engineering(RAISE'12) ” at Guru Ramdass Institute of Engineering and Technology, between Jan, 6 th -7 th 2012, Bathinda-151001, Punjab, India.	Session Chair
3.	Extension Lecture on “ Career Planning and options for Higher studies ” at MSKGC, Talwandi Sabo on November 26 th ,2014	Invited Lecture
4.	National Conference on “ Recent Advancements in Science, Commerce and Technology sponsored by DST, New Delhi organized by MSKGC, Talwandi Sabo April 5 th -6 th , 2016	Session Chair
5.	Invited Talk on “ Characterisation Techniques ” at National Conference on “ Recent Advancements in Science, Commerce and Technology sponsored by DST, New Delhi organized by MSKGC, Talwandi Sabo April 5 th -6 th , 2016	Invited Talk

11. Full Paper Publication In Proceeding

Sr. no.	Author/ Authors	Title of the paper	Proceedings	ISBN/ISSN No.
1.	Kulbir Singh Sandhu* , Ajay Sidana, Balwinder Singh, Navneet Dabra ,Manish Goyal	Friction Stir Welding of Dissimilar Aluminium and Magnesium Alloys Used in Automobile and Aerospace Industry	Proceedings of the National Conference on Latest Advancements in Science, Engineering and Research 2011 (LASER'11), Vol. I, p. 376-381, May 2011	ISBN: 978-93-81361-06-1
2.	Gagandeep Singh, Kulbir Singh Sandhu* , Vikramjit Singh	Process parameters of electric discharge machine	Proceedings of the National Conference on Latest Advancements in Science, Engineering and Research 2011, May 2011 (LASER'11), Vol.I	ISBN: 978-93-81361-06-1
3.	Harleen Kaur*, Ajay Sidana , Kulbir Singh Sandhu	Advanced Joining Techniques for light weight magnesium alloys	Proceedings of the National Conference on Latest Advancements in Science, Engineering and Research,May 2011 (LASER'11), Vol.II	ISBN:978-93-81361-07-8
4.	Ajay Sidana, Kulbir Singh Sandhu* , Balwinder Singh, Deepak Kamra	Friction Stir Welding of Magnesium Alloys-A review	Proceedings of the National Conference on Recent Advancements and Innovations in Science and Engineering, Jan-2012(RAISE'12),	ISBN:978-93-81583-16-6

12. Publicaton In Referred International Journals

Sr. no.	Name of Authors	Title of Paper	Journal	ISSN no.
1.	Kulbir Singh Sandhu* , Sukhpal Singh	Advanced Joining Techniques for welding light weight magnesium alloys used in	International journal of Material Science and Engineering (2011) Vol. 2(1-2)pp 99-104.	0976-6243

	Chatha, Hazoor Singh	Automobiles and Aerospace Industry		
2.	Ajay Sidana, Kulbir Singh Sandhu, Balwinder Singh	Effect of Tool Rotation Speed on Microstructure and Mechanical Properties of Friction Stir Welded Al6061-T6 Alloy	International Journal of New Innovations (2012) Vol. 1(2) pp 295-299.	2277-4459
3.	Kulbir Singh Sandhu*, Sukhpal Singh Chatha, Hazoor Singh	Effect of Rotation Rate on Microstructure and Mechanical Properties of FSW Al-Mg-Si Alloy Joints	International Journal of Surface Engineering and Materials Technology (2014) Vol. 4(2) pp 40-44.	2249-7250
4.	Ankit Chopra, Inderjeet Singh, Kulbir Singh Sandhu, Ramandeep Singh Deorda	Some Investigations on Mechanical and Metallurgical properties of Friction Stir Welded Joints of AA6101 alloy	International Journal of Advanced Engineering and Research Development (2015) Vol. 2(10) pp 52-59.	2348-6406
5.	Kulbir Singh Sandhu*, Sukhpal Singh Chatha, Hazoor Singh	Effect of Crystallite Size on Mechanical Properties Of Friction Stir Welded Al-Mg-Si Alloy	International Journal of Surface Engineering and Materials Technology (2016)	2249-7250

13. Workshop/ Course Attended

Sr. no.	Name of the Workshop/Short term course	Organizers	Duration	Number of days/week
1.	Workshop on “ Patent Awareness Workshop ” in association with Patent Information Center, Punjab State Council for Science and Technology, Chandigarh	Yadavindra College of Engineering, Punjabi University Guru Khasi Campus, Talwandi Sabo.	Dec. 11 th , 2009	01
2.	Faculty Development Programme (Summer-2010) on “ Manufacturing and its Advance Techniques ” sponsored by Punjab Technical University Jalandhar	Guru Gobind Singh College of Engineering & Technology, Talwandi Sabo	July 12 th to July 16 th , 2010	One week
3.	Punjab Technical University Jalandhar sponsored Faculty Development Programme on “ Advances in Materials and Manufacturing Technology ”	Malout Institute of Management and Information Technology, Malout, Punjab	18 th to 22 nd July, 2011	One week
4.	Punjab Technical University Jalandhar sponsored Workshop on “ Learning LaTeX for Document Writing ”.	Baba Farid College of Engineering and Technology, Bathinda-151001, Punjab	22 nd to 24 th December, 2010	03
5.	Refresher Course in “ Mechanical Engineering ”	Punjabi University, Patiala	14-05-2012 to 02-06-2012	Three weeks
6.	One Day Workshop on “ Thermal Spray Coatings ” at PTU Jalandhar	Punjab Technical University Jalandhar	15 th Oct. 2014	01
7.	Short term program on “ National Skills Qualification Framework (NSQF), Community Colleges and Skill Development Schemes of Govt. of India ”.	NITTTR, Chandigarh	17-08-2015 to 21-08-2015	One week
8.	One Day Workshop on “ Thermal Spray Coatings ” at Guru Nanak Dev Thermal Power Plant, Bathinda	Society of Mechanical and Materials Engineers	24-02-2016	01
9.	Short term course on “ Green Manufacturing ”.	ICT Mode by NITTTR, Chandigarh	03-02-2020 to 07-02-2020	One week
10.	Short term course on “ Sustainable Environmental Management ”.	ICT Mode by NITTTR, Chandigarh	10-02-2020 to 14-02-2020	One week

11	Short term course on “Recent trends in Automobile Technology”.	ICT Mode by NITTTR ,Chandigarh	24-02-2020 to 28-02-2020	One week
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14. Conference/Workshop/Inter-College Competition/Seminar Organised

Sr. No.	Event Organised	Duty
1.	National Conference on “Smart, Electronic and Engineering Materials(SEEMs’10)” at Baba Farid College of Engineering and Technology, March 5 th -6 th 2010 at Bathinda-151001, Punjab, India	Member Organising Committee
2.	Inter-College Competition as “Inquilab-Ajj vi Khawab” on Martyrdom day of Shaheed Bhagat Singh on 21 st March 2011 organised at Baba Farid College of Engineering and Technology, Bathinda-151001, Punjab, India	Coordinator
3.	National Conference on “Latest Advancements in Science, Engineering and Research(LASER’11)” at Baba Farid College of Engineering and Technology, May 26 th -27 th 2010 at Bathinda-151001, Punjab, India	Member Organising Committee
4.	Annual University Three day Technical Fest “Chrysoletia” for Year 2012, 2013, 2014, 2015 at Punjabi University, Patiala	Member Organising Committee
5.	Awareness Seminar on “Fullbright-Nehru Fellowship opportunities for Research and Professional Development in USA” on 5 th June 2015 and on 5 th April, 2016 at Punjabi University, Patiala	Coordinator
6.	University Function for celebrations of “World Youth Skills Day” on 15 th July 2015 at Punjabi University, Patiala	Member Organising Committee

RESEARCH GUIDANCE

M.Tech (Thesis) Guided

(05)

Research done on Topics

- Research on Friction stir welding of dissimilar aluminum alloys and Magnesium alloys.
- Specially designed and optimized process parameters for universal milling machine for successfully obtaining weld joints for difficult to weld soft alloys like aluminium and magnesium used in automobile and aerospace industry.
- Study of Mechanical Properties of Aluminium alloy with varying casting parameters and post heat treatment.
- Research on Surface improvements with ceramic powders by Friction stir processing of Aluminium and Magnesium alloys used in aerospace industry.

OTHER ADMINISTRATIVE AND EXTRA DUTIES PERFORMED

- Boys Hostel Incharge at Baba Farid College of Engineering and Technology, Bathinda
- Co-ordinator NCC at Baba Farid College of Engineering and Technology, Bathinda
- Co-ordinator Annual Athletic Meet for 2008 and 2009 at Baba Farid College of Engineering and Technology, Bathinda
- Responsible for setting up of Workshop and various labs of Department of Mechanical Engineering at Baba Farid College of Engineering and Technology, Bathinda
- Conducted CET-2010 as an observer at Government Polytechnic College, Patiala in 2010 conducted by Punjab Technical University, Jalandhar.
- As Superintendent conducted final semester exams at Department of Mechanical Engineering Punjabi University, Patiala.

- Member Co-ordinator Annual Youth Festival “Lok Mela” at Punjabi University, Patiala.
- Member various Departmental Committees for smooth conduct of administrative and academic work.

COMPUTING SKILLS Microsoft office and Excel, Pro-E, CAD/CAM