

Shaheed Bhagat Singh State Technical Campus, Ferozepur
Mechanical Engineering Department Newsletter

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- ❖ Dr. Neelkanth Grover
- ❖ Dr. Rakesh Kumar
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- ❖ Mr. J.K.Aggarwal
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- ❖ Mr. Munish Kumar
- ❖ Mr. Dharam Pal
- ❖ Mr. Gurnam Singh
- ❖ Mr. Sukhjinder Singh
- ❖ Mr. Jwala Parsad

Director's Message



I am pleased to know that the department of Mechanical Engineering is going to release new edition of its newsletter. This newsletter provides a panoramic view of the academic, research, co-curricular activities and achievements of the department during an academic year. To impart technical educational and training of exemplary academic standards to our students is our vision. The mechanical engineering department has a rich tradition of pursuing academic excellence and providing congenial environment for the overall personality development of its student. I feel confident that the department is progressing in the right direction and I congratulate the faculty and staff for their hard work and whole-hearted efforts to make the department the choicest destination for aspiring mechanical engineers.

Dr. T.S. Sidhu

From the HOD's Desk



Greetings to faculty and students!

It gives an immense pleasure to release annual newsletter of Mechanical Engineering Department for the year 2014. During last year, various curricular and co-curricular activities were conducted successfully by the department. Accreditation by National Board of Accreditation for two years was important milestone achieved by the department. Participation of Mechanical Engineering faculty in various training programs and International conferences was the most encouraging factor, which we want to continue in coming years also. Through periodic seminars, symposia, workshops, industrial visits and industrial training as integral parts of the course, the student were equipped with technical knowledge, critical thinking skills and creativity to excel in the engineering profession. The mechanical engineering department is committed to create conducive atmosphere for the development of young brains into bright professionals of future. I believe, that in the years to come, armed with commitment and perseverance of faculty and staff, the department will continue to be the trend-setter in offering an array of curricular and co-curricular activities in order to achieve academic excellence.

Dr. Tejeet Singh

VISION OF THE MECHANICAL ENGINEERING DEPARTMENT

- To be identified as a preferred destination for professional studies responsive to industrial and societal needs of the country.

MISSION OF THE MECHANICAL ENGINEERING DEPARTMENT

- Development of technically competent manpower with requisite analytical, theoretical and managerial skills and practical exposure for diverse careers in Mechanical Engineering.
- All round development of students, staff and faculty by providing conducive environment and infrastructure for learning, skill development and research.
- Imbibing versatility, adaptability and yearning for excellence amongst students, with strong ethical values as their inner strength.

PROGRAMME EDUCATIONAL OBJECTIVES OF THE MECHANICAL ENGINEERING DEPARTMENT

- To enhance the knowledge of students in basic and applied sciences and to educate them in mechanical engineering principles required for analyzing and solving mechanical engineering problems enabling them to secure employment in Industry and academia.
- To train the students in technical, managerial, IT and soft skills along with human, social and professional ethics and values, through teaching of relevant courses, training programs and practical exposure.
- To provide platforms for participation, planning and organizing curricular, co-curricular and extra-curricular activities in the department for overall development of students
- To provide necessary support, guidance and favorable environment for carrying out projects portraying their learning, inculcating team spirit and motivating them for higher studies/research.
- To develop the need for achievement through healthy competition, fair evaluation, recognition and feedback.

DEPARTMENTAL NEWS

Accreditation of Mechanical Engineering Department

It's a matter of great pleasure that Mechanical Engineering department has been accredited by National Board of accreditation (NBA) for **two years**. A NBA team consisting of 11 members visited the institute for three days from 29.8.2014 to 31.8.2014 and examined various aspects as per Washington accord standards regarding outcome based education, quality of faculty, laboratories, academics, infrastructure and other facilities for evaluating B. Tech Mechanical Engineering programme. All faculty and staff members of Mechanical Engineering department had been working day and night from last three years for preparing the department for getting the accreditation.

Research Publications in Journals

The faculty of the department got their research work published in National and International Journals. The detail is given below:

1. Dr. T.S. Sidhu has published his research paper titled "Investigation on Multi-Response Parameter optimization of cold spray coating process" Int J. of surface engineering and materials technology, vol.4(1);pp.50-56.
2. Dr. T.S. Sidhu has published his research paper titled "Performance of cold spray coating in industrial medical waste incinerator" Surface Engineering, vol.30 (5); pp.352-356.
3. Dr. T.S. Sidhu has published his research paper titled "Chlorine based hot corrosion study of cold sprayed NiCrAlY coatings" Surface Engineering, vol.30 (6); pp.422-426.
4. Dr. T.S. Sidhu has published his research paper titled "Performance of cold spray coating on Fe-based superalloy in Na₂SO₄-NaCl environment at 900°C" Surface and coating technology, vol.240 pp. 456-463.
5. Dr. T.S. Sidhu has published his research paper titled "Behavior of cold spray coatings in real incineration environment" Materials and Manufacturing Process.
6. Dr. M.K. Kushwaha has published his research paper titled "A comparative study of different electrolytes for obtaining thick and well- ordered nano-porous anodic aluminium oxide films" Procedia Material Science, vol.5,pp1266-1273.
7. Dr. M.K. Kushwaha has published his research paper titled "Industry responsive metallurgical engineering education quality through TQM" Journal of Materials and Metallurgical engineering Vol. 4(1), pp. 13-22.
8. Dr. Tejeet Singh got his research paper titled "Effect of Residual Stress on Creep Behavior of Functionally Graded 6061Al-SiCw Cylinder Subjected to Internal Pressure", published in Mechanics of Advanced Materials and Structures. Vol. 21, pp. 384-392.
9. Dr. N.K. Grover got his research paper titled "A Study on Removal of Methylene blue dye from waste water by Adsorption Technique using fly ash briquette" published in International Journal of Chemical and Environmental Engineering Vol 5, No.4. pp.213-217.
10. Dr. N.K. Grover got his research paper titled "A Study on Removal of Methylene Blue Dye from Waste Water By Adsorption Technique Using Fly Ash Briquette" International Journal of Engineering Research & Technology Vol 3, No.7. pp 610-613.
11. Dr. N.K. Grover got his research paper titled "Improving Wear resistance of Grey Cast Iron Using Detonation Gun Sprayed Coatings: A Review" published in International Journal of Engineering and Management Research, Vol. 5, No.1. pp 303-307.

Research Publications in Conferences

The faculty members of the department presented their research work in various conferences held at national and international level. The list includes the following:

1. Dr. Tejeet Singh has published research paper titled "Techniques of Functionally Graded Materials: A Review", in International conference on Advancement in Engineering and Technology at BGCIET, Sangrur from 21.02.2014 to 22.02.2014.

2. Dr. Tejeet Singh & J.K. Aggarwal, "An Experimental Study on Effects of Thermal Cycling on Cast Aluminium Composites Reinforced with Silicon Carbide and Fly Ash Particles", Presented at International Conference on Frontiers in Material Research & Applications, October, 30-31, 2014, SBSSTC, Ferozepur.
3. Dr. Tejeet Singh., "Introduction to Functionally Graded Material-An Overview", Presented at International Conference on Frontiers in Material Research & Applications, October, 30-31, 2014, SBSSTC, Ferozepur.
4. Grover, N.K., "Weld Properties of Low Carbon Steel Using Shielded Metal Arc Welding", Presented at International Conference on Mechanical and Manufacturing Engineering, April, 2-3, 2015, SCSVMV University, Kanchipuram.
5. Grover, N.K., "Transient Heat Transfer Solution Using Improved Lumped Model", Presented at International Conference on Mechanical and Manufacturing Engineering, April, 2-3, 2015, SCSVMV University, Kanchipuram
6. Grover, N.K., "Process Optimization of Electric Discharge Machining Using Response Surface Methodology", Presented at International Conference on Mechanical and Manufacturing Engineering, April, 2-3, 2015, SCSVMV University, Kanchipuram.
7. Grover, N.K., "Effect of current and Deep Cryogenic Treated EDM electrodes on surface roughness of AISI D3 steel", Presented at International Conference on Mechanical and Manufacturing Engineering, April, 2-3, 2015, SCSVMV University, Kanchipuram.
8. Dr. N.K. Grover, "Thermal Sprayed Coatings : Current Status", Presented at International Conference on Frontiers in Material Research & Applications, October, 30-31, 2014, SBSSTC, Ferozepur.
9. Grover, N.K., "Effect of Various Alloying Elements on SMAW Electrode Performance", Presented at International Conference on Frontiers in Material Research & Applications, October, 30-31, 2014, SBSSTC, Ferozepur.
10. Kushwaha, M.K., "Effect of Various Alloying Elements on SMAW Electrode Performance", Presented at International Conference on Frontiers in Material Research & Applications, October, 30-31, 2014, SBSSTC, Ferozepur.
11. Grover, N.K., "A Survey on Various Modelling Techniques Used in EDM", Presented at International Conference on Frontiers in Material Research & Applications, October, 30-31, 2014, SBSSTC, Ferozepur.
12. Singh, Tejeet., "A Review on Natural Fiber Reinforced Hybrid Composite", Presented at International Conference on Frontiers in Material Research & Applications, October, 30-31, 2014, SBSSTC, Ferozepur.
13. Singh, Tejeet., "Mechanical Characterization of Jute Bagasse Epoxy and Jute Lantane Camara Epoxy Hybrid Natural fiber Composites", Presented at International Conference on Frontiers in Material Research & Applications, October, 30-31, 2014, SBSSTC, Ferozepur.
14. Singh, Tejeet., "Creep Analysis of Functionally Graded Rotating Cylinder with Particle Gradient", Presented at International Conference on Frontiers in Material Research & Applications, October, 30-31, 2014, SBSSTC, Ferozepur.
15. Singh, Tejeet., "Use of Composite in Leaf Springs", Presented at International Conference on Frontiers in Material Research & Applications, October, 30-31, 2014, SBSSTC, Ferozepur.

16. Singh, Tejeet. And Sukhjinder Singh, “Comparative Evaluation of magnetic abrasives Developed by Adhesive Bonding”, Presented at International Conference on Frontiers in Material Research & Applications, October, 30-31, 2014, SBSSTC, Ferozepur.
17. Singh, Tejeet. And Sukhjinder Singh, “Review- Analysis of Creep in Spherical Pressure Vessels Made of Functionally Graded Composite”, Presented at International Conference on Frontiers in Material Research & Applications, October, 30-31, 2014, SBSSTC, Ferozepur.
18. Singh, Tejeet and Sukhjinder Singh., “Effect of Welding parameter of Flux Consumption in Submerged Arc Welding”, Presented at International Conference on Frontiers in Material Research & Applications, October, 30-31, 2014, SBSSTC, Ferozepur.
19. Singh, Tejeet and Sukhjinder Singh., “Effect of Chemistry of Weld Metal in Submerged Arc Welding”, Presented at International Conference on Frontiers in Material Research & Applications, October, 30-31, 2014, SBSSTC, Ferozepur.
20. Singh, Tejeet., “Hybrid Biofiber Plastics Based Composite: Review”, Presented at International Conference on Frontiers in Material Research & Applications, October, 30-31, 2014, SBSSTC, Ferozepur.
21. Grover, N.K., “Advanced Materials for Solid Oxide Fuel Cell”, Presented at International Conference on Frontiers in Material Research & Applications, October, 30-31, 2014, SBSSTC, Ferozepur.
22. Grover, N.K., “Modelling of Solid Oxide Fuel cell With Internal Reforming”, Presented at International Conference on Frontiers in Material Research & Applications, October, 30-31, 2014, SBSSTC, Ferozepur.
23. Nripjit., “Role of Process Parameters in Fabrication of particulate Composites Having Ceramic Reinforcements of AL₂O₃, SiC and MgO in AL/AL Alloy Metal Martrix : A Review Study”, Presented at International Conference on Frontiers in Material Research & Applications, October, 30-31, 2014, SBSSTC, Ferozepur.
24. Grover, N.K., “Wear Properties of Crygenic Treated Electrodes on Machining of EN-31”, Presented at 4th International Conference on Materials Processing & Characterization, March, 14-15, 2015, GR Institute of engineering & Technology, Hydrabad.
25. Grover, N.K., “A Study on Applications and Parameters of Lumped Model”, Presented at International Conference on Frontiers in Material Research & Applications, October, 30-31, 2014, SBSSTC, Ferozepur.

Training Programs Attended

In the quest of knowledge and to equip themselves with a varied range of skills, the faculty of the department attended the following training programs under TEQIP- II.

1. Dr. Tejeet Singh, HOD ME and Mr. JP Singla, Assistant Professor attended one week training program on “Management Capacity Enhancement Program for Administrators” organized by **Indian Institute of Management Lucknow, Noida**, India, from 9.6.2014 to 13.6.2014.

2. Dr. N.K. Grover attended the **International Deans Summit, 2014 in China** from 26.4.2014 to 1.5.2014. The visit was sponsored by PTU Kapurthala.
3. Dr. Tejeet Singh, attended the one day training program on Gasifire Technology organized by MSME in collaboration with TERI university at Ludhiana in October 2014.

WorkShops/Conferences Organized

1. The department organized two day workshop on “Automotive Electronics” from 19.3.2014 to 30.3.2014 for the students and faculty members of the Department in collaboration with Medaavi center for Automotive Research, Hoshiarpur.
2. The department organized AICTE/TEQIP-II sponsored National Conference on Advances in Manufacturing Systems, Technology, Materials and Management, from 5.9.2014 to 6.9.2014. Candidates from 18 states contributed their research papers in the conference.
3. The department organized TEQIP-II sponsored two days International Conference on Frontiers in Material Research & Applications, from 30.10.2014 to 31.10.2014. **Professor M.E. Brito from Clean Energy Research Center, University of Yamanashi, Japan** delivered the keynote address.
4. Society for Mechanical Engineers has organized one day workshop on Information Technology and Personality Development on 19.9.2014 in collaboration with STEP, Guru Nanak Dev College of Engg& Tech, Ludhiana.
5. Society for Mechanical Engineers has organized two day workshop on Solid Works for the students of Mechanical Engineering on 15.10.2014 to 16.10.2014 in collaboration with CAD center Bathinda.

Ph. D/M. Tech Thesis

1. Mr. Harminder Singh, Asst Prof. at GNDU Amritsar and Mr. S.B.S. Kalsi, asst Prof at AIET Amritsar have successfully completed their PhD under supervision of Dr. T.S. Sidhu.
2. Pavitor Singh Rai completed his M. Tech thesis entitled “Effect of Non-Linear Distribution of Reinforcement and Thermal Gradient on Creep Behavior of FG Cylinders” under the guidance of Dr. Tejeet Singh.
3. Ishavneet Singh completed his M. Tech thesis entitled “Steady state creep behavior of composite cylinder subjected to internal and external pressures” under the guidance of Dr. Tejeet Singh.
4. Tejinder Singh completed his M. Tech thesis entitled “” under the guidance of Dr. N.K. Grover.
5. Rakhi Vaish completed his M. Tech thesis entitled “” under the guidance of Dr. N.K. Grover.

Industrial Visits

The department organized the following industrial visits for the students in order to provide practical knowledge and real work environment exposure.

1. Mechanical Engineering students visited **Science City, Kapurthala** on 1.3.2014. Dr. Tejeet Singh, Dr. Rakesh Kumar and Mr. K. Sunil Behal accompanied them.
2. An Industrial visit was organized to Co-operative Tea Factory Palampur on 20.1.2014. Mr. Munish Kumar, Mr Sukhjinder Singh and Mr. Satinder Kumar accompanied them.
3. The students of Mechanical engineering department visited at **BIZCON 2014** at Ludhiana on 8.4.2014 along with faculty members of ME department namely Dr. Manjinder Singh, Mr. Munish Kumar and Mr. N.S. Bajwa. The event was dedicated to Entrepreneurship development among engineering students.

Expert Lectures Delivered

Various experts having diversified experience in the field of mechanical engineering were invited in the department to update the knowledge of the students about the latest trends in mechanical engineering. The list of these expert talks is given below.

- 1) Dr. Tejeet Singh has delivered expert lecture on topic “Motivation as a tool for Effective Teaching”, in FDP on Effective Teaching at Desh Bhagat Institute of Engineering and Technology, Moga on 4.6.2014.
- 2) Dr. Tejeet Singh has delivered expert lecture on topic “Creep Analysis of Functionally Graded Rotating Cylinders”, in STC on Advancements in Mechanical Engineering at Beant College of Engineering and Technology, Gurdaspur on 27.6.2014.
- 3) Dr. Tejeet Singh has delivered expert lecture on topic on “Steady State Creep Analysis of Functionally Graded Thick Cylinders”, in FDP on Advanced Manufacturing Methods: Future Challenges at Amritsar College of Engineering and Technology, Amritsar on 11.7.2014.



ALUMINI SURVEY

From your personal experience, please circle the appropriate response to each statement concerning the Mechanical Engineering Department. Please return to – **Mechanical Engineering Department, S.B.S. State Technical Campus, Moga Road, Ferozepur-152004, Punjab, India.**

Please use the following key to indicate your response:

1-Strongly Agree 2-Agree 3-Neutral 4-Disagree 5-Strongly Disagree 6-No Opinion

- | | | | | | | | |
|----|---|---|---|---|---|---|---|
| 1 | I feel that the ME Department promotes laboratory development to support the undergraduate program. | 1 | 2 | 3 | 4 | 5 | 6 |
| 2 | I feel that the ME Department sufficiently funds laboratory resources, computational facilities, and classroom activities. | 1 | 2 | 3 | 4 | 5 | 6 |
| 3 | I feel that the ME Department has a curriculum that meets the current and future needs of industry. | 1 | 2 | 3 | 4 | 5 | 6 |
| 4 | I feel that the ME Department responds to alumni and employer suggestions. | 1 | 2 | 3 | 4 | 5 | 6 |
| 5 | I am satisfied with the ME Department as a whole. | 1 | 2 | 3 | 4 | 5 | 6 |
| 6 | I am satisfied that the curriculum provides graduates with an ability to relate to social/current issues applied to engineering. | 1 | 2 | 3 | 4 | 5 | 6 |
| 7 | I am satisfied that the curriculum provides graduates with an ability to relate to ethical issues applied to engineering. | 1 | 2 | 3 | 4 | 5 | 6 |
| 8 | I am satisfied that the curriculum provides graduates with an ability to apply knowledge of mathematics and science to engineering problems. | 1 | 2 | 3 | 4 | 5 | 6 |
| 9 | I am satisfied that the curriculum provides graduates with the ability to use the techniques, skills and modern engineering tools necessary for engineering practice. | 1 | 2 | 3 | 4 | 5 | 6 |
| 10 | I am satisfied that the curriculum provides graduates with the ability and skill to function on multidisciplinary teams. | 1 | 2 | 3 | 4 | 5 | 6 |

ALUMINI UPDATES

In order for us to know what you are doing and inform others in future newsletters, please drop us a note or fill in this form and return it to: Mechanical Engineering Department, Shaheed Bhagat Singh State Technical Campus, Moga Road, Ferozepur, Punjab. Or, send an email to **tejetsingh@rediffmail.com** and visit our website at <http://www.sbsstc.ac.in>.

Name _____

Class _____

Address _____

Company _____ **Title** _____

News about yourself, your family, and/or your job: _____
