

Name: Dr. GURURAJ TELASANG
Tel.: +91 40 24452487
E. Mail: gururajst@arci.res.in



Qualification:

- Ph.D. (2014) on “**Laser Surface Engineering of AISI H13 Hot Work Tool Steel**” at Metallurgical and Materials Engineering Department, IIT – Kharagpur, India.
- M.Tech. (2005) in Corrosion Science and Engineering from IIT- Mumbai, India.
- B.E. (2002) in Chemical Engineering, VTU – Belgaum, Karnataka, India.

Research Areas of Interest:

- Laser surface engineering for enhanced surface properties: Laser surface hardening, Selective area metal deposition
- Laser Additive Manufacturing of Metal components
- Laser refurbishment/repair techniques for metal parts/components

Project Expertise:

- **Center for Laser Processing of Materials at ARCI – Hyderabad from Dec -2010 to till date:** Laser surface hardening, laser surface melting, Laser cladding / material deposition, Refurbishment of critical components/parts like automotive components, dies, tools, and molds etc.
- **Center for Sol-Gel Coatings, at ARCI – Hyderabad from Dec-2006 to Dec-2010:** Synthesis of sol-gel based solution for different functionalized coatings, developing and optimizing sol-gel coating methods for different components using spin coating, dip coating, flow coating and spray coating techniques.
- Research fellow at Metallurgical and Materials Engineering Department, IIT- Kharagpur, India, from July-2005 to Dec- 2006.

- Worked at Fraunhofer Institute for Laser Technique (FILT), Aachen, Germany, as M. Tech project fellow under IIT-DAAD fellowship in 2004-05.

List of Publications:

1. **G. Telasang**, J. Dutta Majumdar, G. Padmanabham and I. Manna, Wear and Corrosion Behavior of Laser Surface Engineered AISI H13 Tool Steel, **Surface Coating and Technology**, 261 (2015), 69–78.
2. **G. Telasang**, J. Dutta Majumdar, M. Tak, G. Padmanabham, and I. Manna, Effect of Laser Cladding and Post Cladding Heat Treatment on Microstructure and Hardness of AISI H13 Tool Steel Clad, **Surface Coating and Technology**, 258 (2014), 1108–1118.
3. **G. Telasang**, J. Dutta Majumdar, N. Wasekar, G. Padmanabham and I. Manna, Microstructure and Mechanical Properties of Laser Clad and Post Cladding Tempered AISI H13 Tool Steel, **Metallurgical and Materials Transactions A**, Accepted 10/2014.
4. **G. Telasang**, J. Dutta Majumdar, G. Padmanabham, and I. Manna, Structure–property correlation in laser surface treated AISI H13 tool steel for improved mechanical properties, **Materials Science and Engineering A**, 599 (2014), 255–267.
5. **G. Telasang**, J. Dutta Majumdar, G. Padmanabham, and I. Manna, Refurbishment of AISI H13 Die Materials by Laser Cladding, **KIRAN: A Bulletin of Indian Laser Association**, 24(2), (2013), 33-36.
6. **G. Telasang**, J. Dutta Majumdar, G. Padmanabham, and I. Manna, Life Enhancement/Recovery of Tool Components by Laser Surface Engineering Techniques, **ALUCAST-2013**, Conference & Exhibition – Die Casting, Bangalore, India, 6th -7th December 2013, Technical Volume, pp. 32-36.
7. Nirmala Sanikommu, **Gururaj Telasang**, N. Aruna, A. S. Joshi and G. Padmanabham, A Virtual Instrument for Thermal Fatigue Testing of Die Casting Tool Steels, **Journal of the Instrument Society of India**, Vol.43, No.4, December 2013, pp. 261-262.
8. **T. Gururaj**, R. Subasri, K.R.C. Soma Raju, G. Padmanabham, Effect of plasma pretreatment on adhesion and mechanical properties of UV-curable coatings on plastics, **Applied Surface Science**, 257(9), pp. 4360-4364, 2011.

9. **G. Telasang**, J. Dutta Majumdar, G. Padmanabham, and I. Manna, Thermal Fatigue and Softening Resistance of Laser Surface Engineered AISI H13 Tool Steel, to be communicated.

List of Patents:

- Improved Scratch and abrasion resistant compositions for coating plastic surfaces, a Process for their preparation and a process for coating using the compositions, Patent Application No. 2427/DEL/2010, Date of filing 12/10/2010.

Invited talk:

- “Metal Additive Manufacturing”, Sensitization workshop on Additive Manufacturing, NIT –Warangal, AP, India, 10th -11th Feb 2014.
- “Laser Surface Engineering of PDC dies” at Industrial Visit to CASTALL Tech., Hyderabad, India, 29th Jan 2014.
- “Life Enhancement/Recovery of Tool Components by Laser Surface Engineering Techniques”, ALUCAST-2013 – Conference -Die Casting, Bangalore, India, 6th -7th Dec 2013.

Work Shop and Conference:

- Presentation on ‘Evaluation of Laser Cladding Process on AISI H13 Hot Work Tool Steel for PDC Die Repair Application’ at NMD-ATM 2014, organized by Indian Institute of Metals, COEP, Pune, India, 12th -15th Nov 2014.
- Participation/presentation in Workshop on “3D Printing and Allied Technologies”, 19th-21st Feb 2014 at IIT –Mumbai, India.
- Presentation on “Structure-Property Correlation of Laser Surface Engineered AISI H13 Hot Work Tool Steel for Improved Mechanical Properties” at NMD-ATM 2013, organized by Indian Institute of Metals, IIT (BHU), Varanasi, India, 12th -15th Nov 2013.
- Presentation on “Effect of heat treatment on microstructure and properties of laser clad H13 tool steel layer on H13 tool steel”, ASMP -2012 Conference, IIT – Chennai, India, Nov -2012.

- “Effect of plasma surface activation on mechanical properties of sol-gel coatings on plastics substrates” ICAF09, International Conference on Advanced Functional Materials, Dec-2009, poster presentation.
- “UV-Curable primer-cum-paint system for mild steel based on sol-gel coating technology”, Proceedings of SAE India Mobility Engineering congress and Exposition 2009, Chennai, SAE-2009-28-0052, 2009.

Awards and Honors:

- Recipient of DAAD-IIT Student Exchange Fellowship for M. Tech. project work at Fraunhofer Institute for Laser Technique (FILT), Aachen, Germany in 2004-05.

Professional Membership:

- Life member of **Indian Institute of Metal (IIM)**, Hyderabad Chapter.
- Member of **Society for Automotive Engineers (SAE) INDIA**, Hyderabad Division and coordinating as **Joint-Secretary and Treasurer** for period 2014-2016.