

Curriculum Vitae

Name Satyam Suwas
Designation Professor & Dean
Date of Birth 30th September, 1969
Affiliation Department of Materials Engineering
Associate Faculty,
Department of Design and Manufacturing
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Education

- 1999, Ph. D., Indian Institute of Technology (IIT), Kanpur, India.
- 1994, M. Tech., Indian Institute of Technology (IIT), Kanpur, India.
- 1991, M. Sc., Banaras Hindu University (BHU), Varanasi, India.

Current research interests

- Processing – Microstructure /texture – mechanical property relationship
- Light alloys (Titanium, magnesium, aluminium alloys, lighter steels)
- Deformation and thermo-mechanical processing
- Additive Manufacturing
- High-temperature structural materials
- Nano-structured materials

Professional experience

- April 2025 onwards: Dean, Division of Mechanical Sciences, Indian Institute of Science, Bangalore, India
- August 2020 – May 2025: Chair, Department of Materials Engineering, Indian Institute of Science, Bangalore, India.
- April-October 2018: Guest Professor as Friedrich Wilhelm Bessel Research Awardee from Humboldt foundation, Germany at Institut für Strukturphysik, Technische Universität, Dresden, Germany.
- September 2015 onwards: Professor, Department of Materials Engineering, Indian Institute of Science, Bangalore, India.
- Associate Faculty, Interdisciplinary Centre for Energy Research.
- Associate Faculty, Centre for Product Design and Manufacturing.
- May-July 2015: Humboldt Re-visiting fellow, at Institut für Strukturphysik, Technische Universität, Dresden, Germany.

- July 2014 and May-July 2013: Invited Professor, University of Lorraine, France.
- April–June 2011: Humboldt Re-visiting fellow, at Institut für Metallkunde und Metallphysik, RWTH, Aachen, Germany.
- September 2010–September 2015: Associate Professor, Department of Materials Engineering, Indian Institute of Science, Bangalore, India.
- June -August 2008: IUSSTF fellow, Carnegie Mellon University, Pittsburgh, USA.
- May 2008, April - June 2007, May - July 2006: Maître de conférences ‘invité’ (*Invited Assistant Professor*) at Université Paul Verlaine de Metz, France.
- June 2005 - August 2010: Assistant Professor, Department of Metallurgy (now Materials Engineering), Indian Institute of Science, Bangalore, India
- April 2004 – May 2005: Alexander von Humboldt Fellow, at Institut für Metallkunde und Metallphysik, RWTH, Aachen, Germany.
- September 2003–March 2004: Maître de conférences ‘invité’ (*Invited Assistant Professor*) at Université de Metz, France.
- September 2002–September 2003: Post-doctoral fellow, Ministry of Research, France at Laboratoire de Physique et Mécanique des Matériaux, Université de Metz, France.
- June 1999–September 2002: Scientist at Defence Metallurgical Research Laboratory, Hyderabad, India.

Honours

- THERMEC(2025) Distinguished Researcher Award
- Elected Fellow (2024), Indian National Science Academy (INSA)
- G.D. Birla Gold Medal (2020), from Indian Institute of Metals (IIM)
- Elected Fellow (2019), Indian National Academy of Engineering (INAE)
- Elected Fellow (2019), Electron Microscope Society of India (EMSI)
- Elected Fellow (2017), National Academy of Sciences, India (NASI).
- Friedrich Wilhelm Bessel Research Award (2017) from Alexander von Humboldt Foundation, Germany.
- ASM-IIM Visiting Lecturer Award (2017) from American Society of Metals & Indian Institute of Metals.
- JSPS-DST Visiting Lectureship (2015) from Japanese Society for Promotion of Sciences & Department of Science and Technology, Govt of India.
- Eminent Engineering personality for the year (2014), from Institution of Engineers, India.
- Metallurgist of the year (2012) from Ministry of Steel, Govt. of India.
- IUSSTF fellowship (2008) from Indo-US Science and Technology Forum.
- Humboldt Fellowship (2004-2005) from Alexander von Humboldt foundation, Germany.
- Young Engineer of the Year (2003) from Indian National Academy of Engineering (INAE).
- President Dr. Shanker Dayal Sharma Medal (1999) from IIT Kanpur, India.

Professional activities

- Elected Member, International Committee for Texture of Materials (ICOTOM)
- Elected Member, International Committee for Strength of Materials (ICSMA)
- Member, International Committee, THERMEC
- Life Member, Indian Institute of Metals (Currently Chairman, Indian Institute of Metals, Bangalore Chapter)
- Member of executive council, Electron Microscope Society of India
- Life Member, Materials Research Society of India
- Life Member, Magnetism Society of India
- Life Member, Texture Society of India
- Member, The Minerals, Metals and Materials Society (TMS), USA
- Member, American Society of Metals (ASM), USA

Other professional services

- *Associate Editor, Materials Characterization, Elsevier*
- *Section Editor, Transactions of Indian National Academy of Engineering*
- *Section Editor, Current Science (Indian Academy of Sciences)*
- *Member, Editorial Board, Materials Science and Engineering A, Elsevier*
- *Member, Editorial Board, Materials and Design, Elsevier*
- *Member, Editorial Board, Journal of Magnesium and Alloys, Elsevier*
- *Member, Editorial Board, Scientific Reports, A Nature Publication*
- *Key Reader for Metallurgical and Materials Transactions A (2005-2017)*
- *Reviewer for Acta Materialia, Scripta Materialia, Materials Science and Engineering A, Journal of Alloys and Compounds, Intermetallics, Scientific Reports, Materials and Design, Journal of Materials Science, Modelling and Simulations in Materials Science and Engineering, Journal of Materials Engineering and Performance, Journal of Engineering Materials and Technology, Materials Characterization, Philosophical Magazine, Philosophical Magazine Letters, Materials Letters, Materials Science and Technology, Texture Stress and Microstructure, Bulletin of Materials Science, Current Science, Transactions of the Indian Institute of Metals.*

Academic duties

Teaching

- Teach the following *post-graduate and undergraduate* courses at IISc
 - Science of Materials Processing (PG)
 - Texture and Grain Boundary Engineering (PG)
 - Materials and Processes (PG, Smart Manufacturing)
 - Introduction to Materials Manufacturing (UG)
- Developed a web-based course “Introduction to Crystallographic Texture and Related Phenomenon” for National Program on Technology Enhanced Learning (NPTEL) – by the Govt. of India. (<http://nptel.ac.in/courses/113108054/>)

Research

• *Supervision of research students*

- Thesis Completed
 - 34 Doctoral students (16 single + 18 joint supervision)
 - 2 M.Sc. (Engineering) / M. Tech. (Research) student (joint Supervision)
 - 42 M.E./M.Tech. students
- Thesis Ongoing
 - 6 Post-doctoral students
 - 22 Doctoral students (6 single and 16 joint supervision)
 - 6 M.Tech. students (4 single and 2 joint supervision)

• *Publications (complete list in Annexure I)*

- Book authored/edited: 6
- Book Chapters: 6
- Publications in Refereed Journals and Edited Conference Proceedings (including invited review articles): 526
- Patents filed: 6

• *Sponsored Research projects*

As Principal Investigator

<i>SN</i>	<i>Title</i>	<i>Funding Agency</i>	<i>Duration</i>
01	Temperature Sensitivity of Dwell Fatigue in Ti64 and Ti6242	Pratt & Whitney	April 2023-March 2026
02	Centre of Excellence in Smart Hybrid Additive Manufacturing	Department of Science and Technology (DST)	March 2023-February 2026
03	Additive Manufacturing of Ti-6Al-242 Disc and comparative studies with wrought disc	Defence Research and Development Organization (DIA-RCoE)	April 2023-March 2028
04	Structure and properties of additive manufactured intermetallic titanium alloys for heat-resistant applications	DST-RUSF	June 2022-May 2025
05	The development of β -Ti alloys by in situ alloying using additive manufacturing: Processing, microstructure and mechanical properties	Department of Science and Technology – CRG	June 2022 – May 2025
06	Experimental and numerical engineering of eutectic microstructures in novel high melting Mo-Si-Ti alloys processed by additive manufacturing: microstructure, texture and ensuing mechanical	DST-DFG	Sep 2020-August 2023

	properties		
07	Additive Manufacturing Parameters and High Cycle Fatigue of Ti6242/Ti6246	Pratt & Whitney	April 2020-March 2023
08	Understanding room temperature dwell fatigue debit in Ti alloys with 3D microstructure and microtextural characterization	Aeronautics Research & Development Board (GT Map)	January 2019-December 2023
09	Understanding the micro-mechanisms of texture evolution and micro-mechanisms of texture evolution and microstructure formation during dynamic recrystallization of a boron-added P91 steel	Indira Gandhi Centre for Atomic Research (IGCAR), Kalpakkam	December 2017 – December 2019
10	Microstructural characterization of Mechanically tested 304H Cu SS, Alloy 617M and alloy 625	Indira Gandhi Centre for Atomic Research (IGCAR), Kalpakkam	December 2017 – December 2020
11	High strength, wear and corrosion-resistant steel for high-speed rail and elastic clip	IMPRINT Ministry of Human Resource Development (coordinated by IIT Kanpur)	December 2017 – December 2020
12	Development of an innovative process to fabricate ultra-fine-grained bimetallic thin sheets for micro forming application	IMPRINT Ministry of Human Resource Development (coordinated by IIT Madras)	February 2017 – May 2018
13	Deformation behaviour and control of microstructure and texture in gamma-based TiAl intermetallics for Gas Turbine Application	Aeronautics Research & Development Board (GT Map)	January 2016 – January 2020
14	Development of texture in lightweight alloys during processing and its impact on property anisotropy	The Boeing Company, USA	January 2015-December 2018
15	Development of low Mn TWIP steels	Tata Steel	October 2014-September 2017
16	Modeling of advanced materials for simulation of transformative manufacturing process	DST-EPSRC (UK Engg & Physical Sciences Research Council –Dept. of Science and Technology, India)	Sept. 2014-August 2017
17	Development of beta titanium alloys for orthopedic implants	Department of Science and Technology (DST), Govt. of India	July 2014- June 2017
18	Evolution of Microstructure and texture during high temperature deformation behavior of refractory metals and alloys	Department of Atomic Energy. Board of Research in Nuclear Sciences (BRNS), India	March 2011-March 2015
19	Processing-Microstructure-Property relationship to enhance plasticity in Magnesium alloys	General Motors, USA	August 2010-December 2012
20	Grain boundary engineering for mechanical properties improvement	Korea Institute of Science & Technology, Korea	March 2009-February 2011
21	Grain refined high carbon steels for wire application	Tata Steel	July 2009-June 2012
22	Simulation of cold rolling texture for TWIP steel	Tata Steel	June 2009-May 2011

23	Deposition and characterization of Cu-based interconnects for microelectronics devices	Council of Scientific and Industrial Research, India	March 2009-February 2012
24	Development of high-temperature austenitic steels with Cu nano-dispersoids	Korea Institute of Science & Technology, Korea	October 2008-September 2010
25	Processing–texture-property relationship in bulk nano-structured/ultra-fine-grained materials produced by Accumulative Roll Bonding	Department of Science and Technology (DST), India	March 2007-February 2010
26	Processing–texture relationship in B-modified Ti-alloys	US Air Force (AOARD)	April 2007- April 2008
27	Investigation on ultra-fine-grained (UFG) steels	Tata Steel	September 2006 – September 2008

Co-investigator for:

<i>SN</i>	<i>Title</i>	<i>Funding Agency</i>	<i>Duration</i>	<i>PI</i>
1	Equal channel angular pressing of metals and alloys	Defence Research and Development Organisation (DRDO), India	Inducted in October 2005 till March 2007	Prof. K. Chattopadhyay
2	Development of high temperature aluminium alloy	The Boeing Company, USA	June 2006-May 2011	Prof. K. Chattopadhyay
3	Development of magnesium alloys with improved mechanical and corrosion properties	The Boeing Company, USA	November 2009-October 2012	Prof. S. Kumar
4	Friction Stir Welding of dissimilar metals	Defence Research and Development Organisation (DRDO), India	October 2010 –October 2013	Prof. S.V. Kailas
5	Processing, structure, texture and crystal plasticity in two phase titanium alloys	The Boeing Company, USA	Jan 2011-December 2014	Prof. D. Banerjee
6	Investigation of composition and slip transfer in titanium alloys	Pratt & Whitney, USA	April 2014-March 2017	Prof. D. Banerjee
7	Surface and sub-surface characterization of holes drilled/ reamed in 4340M Steel and its relation to mechanical properties	The Boeing Company, USA	January 2015-December 2017	Prof. S.V. Kailas
8	Understanding mechanical size effects in metallic microwire synergy between experiments and simulation	Indo-French Centre for the Promotion of Advanced Research (CEFIPRA)	January 2016 – October 2018	Prof. A.H. Chokshi
9	Microstructural evolution	Science and Engineering	June 2015 –	Prof. A.H.

	strengthening and fracture in microwires	Research Board (SERB), Department of Science and Technology, India	June 2018	Chokshi
10	Lightweight polymer nanocomposites for EMI Shielding	The Boeing Company, USA	December 2015 – December 2018	Prof. S. Bose
11	Titanium microstructural effects on low cycle fatigue	Pratt & Whitney, USA	April 2018- April 2021	Prof. D. Banerjee
12	Development of wrought Mg-Sn based alloy for automotive applications	Science and Engineering Research Board (SERB), Department of Science and Technology, India	March 2017 – March 2020	Prof. S. Kumar
13	Study of microstructure of similar dissimilar welds	Indira Gandhi Centre for Atomic Research (IGCAR), Kalpakkam	December 2017 – December 2020	Prof. S. Kumar
14	3D printing of metallic orthopedic implants	Uchhtar Avishkaar Yojana	Completed	Prof. K. Chatterjee
15	Development of Friction Stir Welding Technique for Joining Dissimilar Light Alloys	Indo-Russian Project, with Indian part from Department of Science and Technology (DST), India	October 2017 –October 2020	Prof. S.V. Kailas

• ***Consultancy projects:***

SN	Title	Funding Agency	Duration
1	Accumulative roll bonding of some copper base materials	Reliance Industries, Mumbai	6 months
2	Cold Spray Coatings- Fundamental Understanding of Severe Plastically Deformed structure (Co-consultant: Dr. Chandan Srivastava)	General Electric, India Technology Centre	1 year
3	Recrystallisation studies 0.2% carbon steel and 22 Mn B5 (Co-Consultant: Prof. S. Kumar)	Aisin Seiki Co., Ltd, Bangalore	6 Months
4	Evaluation of residual stress in striker shaft (Co-Consultant: Prof. S. Kumar)	Aisin Seiki Co., Ltd, Bangalore	6 Months

Annexure I

BOOKS (Authored & Edited)

1. **Advances in Texture, Microtexture, and Allied Techniques**, Satyam Suwas and David P. Field, 2025. Springer, UK, ISBN: 978-981-96-5346-1.

2. **Crystallographic Texture of Materials.** Satyam Suwas, and R. K. Ray, 2014. Springer, UK ISBN: 978-1-4471-6313-8.
3. **Microstructure and Texture in Steels and Other Materials.** A. Haldar, Satyam Suwas, D. Bhattacharjee, (Eds.), 2009. Springer, UK, ISBN: 978-1-84882-453-9.
4. **Textures of Materials** - ICOTOM 16, Vols. 702 - 703., A. Tewari, Satyam Suwas, D. Srivastava, I. Samajdar and A. Haldar, (Eds.), 2012. Trans Tech Publication, Switzerland, ISBN: 978-3-03785-294-1.
5. **Industry 4.0 and Advanced Manufacturing: Proceedings of I-4AM 2022.** Amaresh Chakrabarti, Satyam Suwas, Manish Arora (Eds.), 2022 Springer, ISBN: 978-9811905605.
6. **Metallurgy and Design of Alloys with Hierarchical Microstructures.** Krishnan K. Sankaran, Rajiv S. Mishra, Satyam Suwas, 2024, Elsevier - Health Sciences Division; 2nd edition, ISBN-13 : 978-0443184826 (*in press*).

Book Chapters

1. R.K. Ray, S. Suwas (2025), "Crystallographic Texture—Historical Perspective and Modern Developments" *Advances in Texture, Microtexture, and Allied Techniques: Measurements*, 2025.
2. D.P. Field, S. Suwas, S.I. Wright (2025), "Basics of SEM-Based Techniques for Electron Backscatter Diffraction" *Advances in Texture, Microtexture, and Allied Techniques: Measurements*, 2025.
3. R.K. Khatirkar, S. Suwas (2025), "Microstructure and Texture Development During Deformation and Recrystallization in Two-Phase Materials" *Advances in Texture, Microtexture, and Allied Techniques: Measurements*, 2025.
4. Satyam Suwas, A. Bisht, G. Jagadeesh, **Microstructural changes in materials under shock and high strain rate processes: recent updates**, In *Mechanics of Materials in Modern Manufacturing Methods and Processing Techniques*, Elsevier Series in Mechanics of Advanced Materials; Vadim V. Silberschmidt, Ed.; Elsevier Ltd. 2020, 361-392, ISBN 9780128182321, <https://doi.org/10.1016/B978-0-12-818232-1.00012-6>.
5. Satyam Suwas, N.P. Gurao, **“Development of Microstructures and Textures by Cross Rolling”**. In *Comprehensive Materials Processing*; S.T. Button, Ed.; Elsevier Ltd., 2014; Vol. 3, pp. 81–106. ISBN: 9780080965321.
6. Nilesh Gurao, Satyam Suwas, Rajeev Kapoor, **Study of Texture Evolution at High Strain Rates in FCC Materials**, Ceramic Transactions Series, Editor(s): A.D. Rollett, 2008, <https://doi.org/10.1002/9780470444214.ch8>.

Review Articles

1. A.G. Illarionov, S.I. Stepanov, I.A. Naschetnikova, A.A. Popov, P. Soundappan, K.H. Thulasi Raman, **S. Suwas** (2023), “A Review—Additive Manufacturing of Intermetallic Alloys Based on Orthorhombic Titanium Aluminide Ti₂AlNb,” *Materials*, Vol.16 (3), art. no. 991.
2. K. Edalati, A. Bachmaier, V.A. Beloshenko, Y. Beygelzimer, V.D. Blank, W.J. Botta, K. Bryła, J.Čížek, S.Divinski, N.A.Enikeev, Y.Estrin, G.Faraji, R.B.Figueiredo, M. Fuji, T.Furuta, T. Grosdidier, J. Gubicza, A. Hohenwarter, Z. Horita, J. Huot, Y. Ikoma, M. Janeček, M. Kawasaki, P. Král, S. Kuramoto, T.G. Langdon, D.R. Leiva, V.I. Levitas, A.Mazilkin, M. Mito, H. Miyamoto, T. Nishizaki, R. Pippan, V.V.Popov, E.N. Popova, G. Purcek, O. Renk, A. Révész, X. Sauvage, V. Sklenicka, W. Skrotzki, B.B.Straumal, **S.Suwas**, L.S.Toth, N.Tsuji, R.Z.Valiev, G.Wilde, M.J. Zehetbauer, X. Zhu (2022), “Nanomaterials by severe plastic deformation: review of historical developments and recent advances,” *Materials Research Letters*, Vol. 10 (4), pp. 163-256.
3. R. Sabban, K. Dash, **S. Suwas**, B.S. Murty (2022), “Strength–Ductility Synergy in High Entropy Alloys by Tuning the Thermo-Mechanical Process Parameters: A Comprehensive Review,” *Journal of the Indian Institute of Science*, Vol.102 (1), pp. 91-116.
4. S. Acharya, R.Soni, **S. Suwas**, K. Chatterjee (2021), “Additive manufacturing of Co–Cr alloys for biomedical applications: A concise review”, *Journal of Materials Research*, Vol. 36 (19), pp. 3746-3760.
5. S. Acharya, **S.Suwas**, K. Chatterjee (2021), “ Review of recent developments in surface nanocrystallization of metallic biomaterials,” *Nanoscale*, Vol.13 (4), pp. 2286-2301.
6. S Bahl, **S Suwas**, K Chatterjee (2021), “Comprehensive review on alloy design, processing, and performance of β Titanium alloys as biomedical materials,” *International Materials Reviews*, Vol. 66(2), pp.114-139.
7. **S Suwas**, RJ Vikram (2021), “Texture Evolution in Metallic Materials During Additive Manufacturing: A Review”, *Transactions of the Indian National Academy of Engineering*, Vol. 6 (1), pp. 991-1003.
8. **S Suwas**, D Kumar (2020), “Microstructure–Texture–Mechanical Property Relationship in Alloys Produced by Additive Manufacturing Following Selective Laser Melting (SLM) Technique,” *Transactions of the Indian National Academy of Engineering*, Vol. 5 (1), pp. 1-10.
9. **S. Suwas** and S. Mondal (2019), “Texture evolution in Severe Plastic Deformation Process,” *Materials Transactions (Japan Institute of Metals)*, Vol. 60 (8). pp.1457-1471.
10. L.S. Toth, C. Chen, A. Pougis, M. Arzaghi, J.-J. Fundenberger, R. Massion, **S. Suwas** (2019), “High pressure tube twisting for producing ultra fine grained materials: A review,” *Materials Transactions (Japan Institute of Metals)*, Vol.60 (7), pp. 1177-1191.

11. S Pramanik, **S Suwas**, RK Ray (2014), "Influence of crystallographic texture and microstructure on elastic modulus of steels", *Canadian Metallurgical Quarterly*, Vol.53 (3), pp. 274-281.
12. G. Manivasagam, **S. Suwas** (2014), "Biodegradable Mg and Mg based alloys for biomedical implants," *Materials Science and Technology*, Vol.30 (5), pp. 515-520.
13. **S. Suwas**, NP. Gurao (2012), "Crystallographic texture in Materials," *Journal of Indian Institute of Science*, Vol. 88 (2).
14. **S. Suwas**, A.K. Singh, R.K. Ray (2000), "Texture in titanium and its alloys", *Titanium*, Vol. 5(2), pp. 1-10.
15. RK Ray, **S Suwas** (2000), "Development of crystallographic texture during processing of some aluminide based aerospace materials," *Metals and Materials*, Vol. 6 (1), pp. 39-49.
16. RK Ray, **S Suwas** (1998), "Texture evolution in trimetal aluminide intermetallics," *Metals Materials and Processes*, Vol. 10 (3), pp. 265-286
17. **S. Suwas**, G.S. Upadhyaya (1995), "Powder metallurgy processing of aluminide intermetallics", *Metals Materials and Processes*, Vol. 7(4), pp. 225-250.

Publications in Refereed Journals and Conference Proceedings:

A. In Journals

Publications from 1996-2025

1. S. Agrawal, G.S. Avadhani, **S. Suwas** (2026), "Deformation-assisted precipitation and segregation in Al-Li alloy AA2099" *Scripta Materialia*, 270, 116959.
2. K.N.C. Kumar, M. Radhakrishnan, Z.W. Hughes, S. Palaniappan, S. Sharma, **S. Suwas** (2025), "Thermokinetics driven microstructural evolution during laser-based additive manufacturing of γ -TiAl alloy" *Intermetallics*, 187, 108984.
3. V. Gopal, S. Prasanth, G. Manivasagam, K. Chatterjee, **S. Suwas** (2025), "Tribocorrosion of biomedical Ti-Nb-Ta alloys fabricated by directed energy deposition using elemental powders" *Tribology International*, 211, 110906.
4. G. Das, R.K. Sabat, P. Patel, D. Panda, **S. Suwas**, K. Kapoor, S.K. Sahoo (2025), "Microstructure and texture evolution during fabrication of titanium tubes for aerospace applications" *Philosophical Magazine*, 1-21.
5. A.K. Sathe, D.A. Kumar, K. Mehta, A.K. Saxena, V.K. Barnwal, S.T. Reddy, **S. Suwas** (2025), "Mitigating room-temperature tensile and creep anisotropy in laser powder bed fusion processed Ti6Al4V by modulating slip activity and intervariant boundary distribution" *Acta Materialia*, 121454.
6. S.K. Gupta, P. Singh, K. Chatterjee, **S. Suwas** (2025), "Enhanced fracture toughness of additively manufactured Ti-6Al-4V ELI" *International Journal of Fracture*, 249(3), 1-32.

7. G. Kumar, P. Huilgol, L.S. Tóth, **S. Suwas**, S.V. Kailas (2025), "High pressure compressive reverse shearing: A new severe plastic deformation process" *Materials & Design*, 114450.
8. S.S. Dhinwal, S. Biswas, S. Agrawal, D. Kumar, L. Peltier, **S. Suwas** (2025), "Equal Channel Angular Pressing of tin based eutectic Sn-Cu,-Mg,-Zn alloys and their thermal stability" *Journal of Alloys and Compounds*, 182459.
9. S. Mukherjee, H. Kumar, B.S. Murty, **S. Suwas**, S.K. Makineni (2025), "Effect of Co partitioning to the γ matrix on the microstructural stability of a Ti-rich Ni-Base Superalloy" *arXiv preprint*, arXiv:2507.15447.
10. A. Gupta, R. Raj, G. Shankar, **S. Suwas**, S.H. Choi (2025), "Microstructural stability and mechanical properties of the non-equiatomic NbCrTiMoVHf refractory complex concentrated alloy" *Journal of Materials Science*, 1-25.
11. D. Schliephake, S.R. Ramdoss, R.J. Vikram, G. Falcão, F. Galgon, H. Thota, **S. Suwas** (2025), "Microstructure and mechanical properties of a laser-based directed energy deposited Mo-Si-Ti alloy" *Journal of Materials Science*, 1-15.
12. S. Agrawal, C. Kumar, G.S. Avadhani, M. Heilmaier, **S. Suwas** (2025), "Anisotropic creep and stress rupture behaviour of laser powder bed fusion processed Hastelloy X" *Materials Science and Engineering: A*, 934, 148342.
13. H. Gupta, S. Gopalakrishnan, **S. Suwas** (2025), "Elastic wave propagation in textured polycrystalline materials: A computationally-efficient and experimentally-supported approach" *Materialia*, 102465.
14. N. Bibhanshu, S. Ranjan, A. Bhattacharjee, **S. Suwas** (2025), "Dynamic Strain Restoration During Plane Strain Hot Compression in Third-Generation γ -TiAl Alloys: Ti-45Al-(5, 10) Nb-0.2 C-0.2 B" *Metallurgical and Materials Transactions A*, 1-17.
15. G. Kumar, P. Huilgol, **S. Suwas**, L.S. Tóth, S.V. Kailas (2025), "Validation of the new high-pressure compressive reverse shearing severe plastic deformation process with the help of textures and microstructures" *Materials Characterization*, 224, 115013.
16. S.A. Paranjape, T.G. Nikhil, **S. Suwas**, L.S. Tóth, S.V. Kailas (2025), "Comparison of microstructure and texture in pure magnesium sheets produced by hot rolling and a new SPD process; the high-pressure compressive reciprocating shear" *Materials Characterization*, 115209.
17. S.K. Gupta, N. Holla, S. Suwas, K. Chatterjee, S.V. Krishna (2025), "Application of 3D printing for Customised Treatment of Upper Limb Disorders" *Journal of Hand and Microsurgery*, 100284.
18. D. Kumar, A. Arya, S.A. Dutta, S. Jhavar, K.G. Prashanth, **S. Suwas** (2025), "Response of Stress Relieving and Solution Annealing Treatment on Tensile Properties and Fracture Toughness of Additively Manufactured Stainless Steel 316L" *Journal of Materials Engineering and Performance*, 1-22.
19. D. Kumar, Y.N. Aditya, K.G. Prashanth, **S. Suwas** (2025), "Evolution of site-specific solidification microstructure and texture during additive manufacturing of stainless steel 316L by laser powder bed fusion" *Materials Characterization*, 223, 114971.

20. M. Anand, S. Ranjan, S. Sisodia, G. Jagadeesh, **S. Suwas**, A. Chauhan (2025), "Superior Shock Resistance of Magnesium and Magnesium–Aluminum Alloys with Cerium Addition" *Advanced Engineering Materials*, 27(9), 2402488.
21. V. Chandravanshi, V. Singh, **S. Suwas**, A. Bhattacharjee (2025), "Superplastic Behavior of β Rich ($\alpha + \beta$) Titanium Alloy SP-700 in Lower and Higher ($\alpha + \beta$) Regions" *Materials Transactions*, 66(5), 511-520.
22. S.T. Reddy, Y. KU, S. Choudhary, **S. Suwas** (2025), "Micromechanical Response of Commercially Pure Titanium: Insights from Experiments and Crystal Plasticity Simulations" *Materials Transactions*, 66(5), 501-510.
23. A. Bisht, J. Subburaj, G. Jagadeesh, **S. Suwas** (2025), "Deformation Behavior of Commercially Pure Titanium Subjected to Blast Assisted Deformation: New Insights on $\{11-21\}$ Extension Twinning" *Materials Transactions*, 66(5), 521-531.
24. D. Kumar, S. Gupta, Y.N. Aditya, S. Jhavar, K.G. Prashanth, **S. Suwas** (2025), "Role of Microstructure on Tension-Compression Asymmetry in Additively Manufactured Stainless Steel 316L" *Metallurgical and Materials Transactions A*, 56(5), 1620-1640.
25. R.J. Vikram, A. Kirchner, B. Klöden, **S. Suwas** (2025), "Optimized Heat Treatment for Electron Beam Powder Bed Fusion Processed IN718: Correlating Microstructure, Texture, and Mechanical Properties" *Advanced Engineering Materials*, 27(9), 2401905.
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B. In conference proceedings

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2. S. Ranjan, G. Jagadesh, **S. Suwas** (2024), “Microstructural and Texture Investigation on Shock Wave-assisted Deformation of Magnesium”, *Advances in shock interaction, Springer Proceedings in Physics*, pp 149-157.
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Patents filed

1. “High Strength Hot Rolled Medium Manganese Steel with and method of producing the same” (with Rajib Saha, Bhagat A N, Kundu Saurabh, Rajib Kalsar) Patent No. IN201931004043A, Published Filed 2019-02-01, Published 2020-08-07
2. “Aluminium-based alloys for high-temperature applications and method of producing such alloys” (with Surendra Kumar M, Sukla Mondol, Subodh Kumar and K. Chattopadhyay), **2019**, Indian Institute of Science, Bangalore, India. Ref. No. IP25382/GN, Indian Patent. 2014-12-26
3. “Method to produce bulk sub-micron Magnesium” **granted on: 23rd April, 2018** Indian Patent No. **295975**; (with Somjeet Biswas and Satyaveer Singh D.), Indian Institute of Science Bangalore, India. Application No. 1457/CHE/2008, Indian patent.
4. “Copper containing austenitic stainless steel and its fabrication method” (Patent No.: 10-1281101) **granted on 26th June 2013** (with Eric Fleury, Dong-Ik Kim, Subhasis Sinha and Sungmin Hong). Date of filing 24th December 2010 (Application No. 10-2010-0134684).
5. “A method to process Interstitial Free Steels by Multi-axial forging (MAF)” **granted on 13th March, 2013** (with D. Bhattacharjee, R.K. Ray, Somjeet Biswas, Ayan Bhowmik and Satyaveer Singh D.) TATA Steel and Indian Institute of Science, Bangalore, India, Pub. No.: 1831/KOL/08 dated 27.10.08, International Application No.: PCT/IN2009/000607. Chinese Appl. No.200980100972.5
6. “Production of ultrafine grains in Interstitial Free Steels by equal channel angular extrusion (ECAE)”, (with D. Bhattacharjee, R.K. Ray and Ayan Bhowmik), TATA Steel and Indian Institute of Science, Bangalore, India, **2009**, Pub. No.: WO/2010/049950 International Application No.: PCT/IN2009/000608. Indian application No. 1840/KOL/2008 dtd. 27.10.08

Plenary/Invited Lectures delivered in International/National Conferences, and lectures delivered in Academic institutions, and Research Laboratories

1. Keynote lecture delivered at the International Conference on Processing & Manufacturing of Advanced Materials (THERMEC) held in France during 30th June – 4th July 2025
2. Invited lecture at The 20th International Conference on Strength of Materials ICSMA held in Kyoto, Japan, during 2nd-7th June 2025.
3. Invited lecture delivered at The Minerals, Metals & Materials Society (TMS) 2024 held in Florida, USA during 3rd - 7th March 2024.
4. **Invited** lecture delivered at International Conference on Texture of Materials

(ICOTOM) held in Metz, France, during 26th June – 1st May 2024.

5. Invited lecture delivered at the International Conference on Processing & Manufacturing of Advanced Materials (THERMEC) held in Vienna during 2-7th July 2023.
6. **“Additivity of Strengthening Mechanisms in Severe Plastically Deformed Metals and Alloys”** Invited lecture delivered at International Conference on Strength of Materials (ICSMA19) held in Metz, France, during 26th June – 1st May 2022.
7. **“Effect of stacking fault energy on the evolution of recrystallization texture in face-centered cubic materials”**, **Keynote Lecture** at 7th International Conference on Recrystallization and Grain Growth, Ghent (Belgium) 4-9th August, 2019.
8. **“Deformation micro-mechanisms and texture evolution in microcrystalline and nanocrystalline FCC materials subjected to high pressure torsion”**, lecture delivered at Karlsruhe Institute of Technology, Karlsruhe, Germany on 27-09-2018.
9. **“Deformation micro-mechanisms and texture evolution in microcrystalline and nanocrystalline FCC materials: The role of stacking fault energy”**, lecture delivered at Max-Planck-Institut für Eisenforschung (MPIE), Dusseldorf, Germany, on 19-09-2018.
10. **“Issues pertaining to grain refinement, texture evolution and strengthening mechanisms in some FCC materials”**, lecture delivered at University of Münster, Münster, Germany, on 18-09-2018.
11. **“Evolution of microstructure and texture in medium to low manganese twinning induced plasticity (TWIP) steels”**, lecture delivered at University of Feiberg, Frieberg, Germany, on 10-09-2018.
12. **“Deformation mechanisms in polycrystalline materials at extreme length scales”**, lecture delivered at Technische Universität, Dresden, Germany on 19-06-2018.
13. **“Understanding micro-mechanisms of deformation through texture evolution in ultrafine grain and nanocrystalline materials”**, **ASM-IIM Medal lecture** at University of Utah, Salt Lake City, USA, 15th November 2017.
14. **“Texture, microtexture and mechanical properties of some Mn steels”** Invited lecture at ICOTOM 18 (*18th International Conference on Texture of Materials*), St. George, Utah, USA, 6th November 2017.
15. **“An EBSD based study of deformation mechanisms in high to medium Mn steels”** Invited Lecture, EMSI, Kalpakkam, on 17-19 July 2017.
16. **“Evolution of micro-texture, texture and mechanical properties of aluminium added Mn steel”**, Invited Lecture, Advanced High Strength Steel Conference, Jamshedpur 22-23 February 2017.
17. **“Texture evolution in FCC materials: Aluminium alloys to TWIP steels”** Invited Lecture at ISRS, Chennai on December 22, 2016.
18. **“Microstructural design in Engineering materials: Emerging trends”** Invited Lecture at NMD-ATM, IIT Kanpur on Nov. 12-14, 2016.

19. **“Evolution of microstructure and texture during high pressure torsion of nanocrystalline Ni- ing high pressure torsion of nanocrystalline Ni-Co alloys”**
Invited Lecture at EMI Conference, Metz, France on October 26, 2016.
20. **“Charaterization of deformed and annealed microstructures by Orientation Imaging microscopy”**, delivered at XXXVII Annual Meeting of Electron Microscope Society of India (EMSI) and the International conference on Electron Microscopy held in Varanasi during June 2-4, 2016. **(Plenary lecture)**
21. **“Texture control in light alloys for Automotive and Aerospace Applications”**, delivered at National Institute of Technology, Tiruchirapalli on 11th April, 2015.
22. **“Understanding deformation mechanisms through texture development in face centered cubic (FCC) metals and alloys”**, delivered at Kobe University, Kobe, Japan on 30th March 2015.
23. **“Through-process texture development in a boron modified titanium alloy”**, delivered at National institute for Materials Science, Tsukuba, Japan on 26th March, 2015.
24. **“Understanding deformation mechanisms through the evolution of texture during severe plastic deformation”**, delivered at Toyohashi University of Technology, Toyohashi, Japan on 24th March, 2015.
25. **“Role of stacking fault energy on texture evolution revisited”** to be delivered at *ICOTOM 17 (17th International Conference on Texture of Materials)*, organized in Dresden, Germany during August 22-28, 2014. **(Plenary lecture)**
26. **“Evolution of texture and microstructure during severe plastic deformation of magnesium alloys magnesium alloy”**, to be delivered *nanoSPD6 (Nanostructured materials by severe plastic deformation)* held in Metz, France during 28th June-1st July, 2014.
27. **“Ultra-fine Grain Materials by Severe Plastic Deformation”**, delivered at 27th National Convention of Metallurgical & Materials Engineers of the Institution of Engineers, India organised in Bangalore, India during 6-7 February 2014.
28. **“Role stacking fault energy and grain size on the evolution of deformation texture in close packed materials”**, delivered at Oak Ridge National Laboratory, USA on 9th December 2013.
29. **“Deformation texture and microstructure evolution in nickel and nickel-cobalt alloys”**, delivered at *THERMEC 2013* in Professor Günter Gottstein Honorary Symposium organised at Las Vegas, USA during 2-6 December, 2013.
30. **“Stacking fault energy, grain size and the evolution of deformation texture”**, delivered at NMD-ATM of Indian Institute of Metals held in Varanasi, India during 12-15th November, 2013.
31. **“Severe plastic deformation of magnesium alloys”**, at Technical University of Chemnitz, Germany on 12th June 2013.
32. **“Texture evolution in micro- and nano-crystalline Nickel and Nickel-Cobalt alloys”**, delivered at Technische Universität, Dresden, Germany on 8th June 2013.

33. **“Evolution of microstructure and texture during severe plastic deformation and annealing of magnesium alloys”** delivered in *5th International Conference on Recrystallization and Grain Growth*, Sydney, Australia during 5- 10 May 2013.
34. **“Multi-axial forging: A viable approach for processing of Magnesium alloys”** delivered at MagNET workshop organized by at University of Waterloo, Canada during April 11-12, 2013.
35. **Evolution of crystallographic textures in materials processing and its implications** delivered at Indian Science Congress ISC-2012 held at Bhubaneswar during January 3-7, 2012.
36. **“Electron back scatter diffraction study of severely deformed metals”** delivered at Golden Jubilee International Conference of Electron Microscopy Society of India held at Hyderabad during 6-8 July, 2011.
37. **“Understanding deformation behaviour at nano- and macro- length scales through texture development”**, at Universite Paul Verlaine de Metz on 9th May 2011.
38. **“Evolution of microstructure and texture during severe plastic deformation”** delivered at University of Munster on 7th June, 2011.
39. **“Evolution of texture during processing of some light weight materials”** delivered at Indo-US symposium on Materials for Energy, held in Saskatoon, Canada during January 20-23, 2011.
40. **“Mechanism of texture formation during deformation and annealing”** presented at STEM-2010, held in IGCAR Kalpakkam, during 25-26 November, 2010.
41. **“Texture and micro-texture evolution in nano-crystalline and sub-microcrystalline materials”**, presented at *Microstructure-2009*, held in Mumbai during November 2009.
42. **“EBSD analyses of grain boundaries in thermo-mechanically processed materials”**, presented at *“KIST-IISc joint symposium”* held in Seoul, KOREA on 24th February, 2009.
43. **“Texture and microstructural evolution during severe plastic deformation: Application to IF steels”** presented at *“International Conference on Texture and Microstructure of Steels”* held in Jamshedpur, INDIA during 5-7th Feb., 2008.
44. **“Evolution of texture during Equal Channel Angular Extrusion (ECAE) of FCC and HCP metals”**, delivered at *INDO-US workshop on “Recent Advances in Microstructure-Texture-Property Relations in Close Packed Metals”*, held in Vishakhapatnam, INDIA during Dec. 28-30, 2005.
45. **“Development of microstructure during severe plastic deformation”** lecture delivered at NIT, Tiruchirapally on 15th June 2009.
46. **“Crystallographic texture in Metals and alloys and its influence on material properties”** lecture delivered in DST-SERC school at IIT, Bombay, March 2009.
47. **“Crystallographic texture: recent trends”** lecture delivered NIT, Tiruchirapally on 14th March 2009.

48. **“Ultra fine grains by Equal Channel Angular Extrusion”** presented at Carnegie Mellon University, Pittsburgh, USA on 27th August, 2008.
49. **“Equal Channel Angular Extrusion of close packed metals”** lecture delivered at Korea Institute of Science and Technology, Seoul, Korea on 5th July 2007.
50. “Introduction to Materials Science” lecture delivered at VIT, Vellore during October 2006.
51. “Crystallographic texture in Metals and alloys and its influence on material properties” lecture delivered in DST-SERC school at IIT, Bombay, March 2006.
52. “Crystallographic texture in Metals and alloys and its influence on material properties” lecture delivered in DST-SERC school at IIT, Bombay, January 2006.
53. “Evolution of texture during Equal Channel Angular Extrusion (ECAE) of FCC and HCP metals”, presented at *INDO-US workshop on “Recent Advances in Microstructure-Texture-Property Relations in Close Packed Metals”*, held in Vishakhapatnam, INDIA during Dec. 28-30, 2005.

- ***Details of the Ph.D. thesis supervised***

	Name	Thesis title	Year	Current position
1	Dr. Nilesh P. Gurao	Some critical issues pertaining to Deformation Texture evolution in close-packed metals and alloys	2010	Professor, IIT Kanpur
2	Dr. Somjeet Biswas	Evolution of Texture and Microstructure during processing of pure Mg and Mg alloy AM30	2010	Associate Professor, IIT Kharagpur
3	Dr. P. Ramesh Narayanan (Co-supervisor: Prof. S. Ranganathan, Dr.P.P. Sinha)	Study of Crystallographic Texture and Residual Stresses in aluminium alloys for space applications <i>(The thesis won Prof. Brahm Prakash best thesis award from Indian Institute of Metals, Trivandrum Chapter)</i>	2011	Head, MCD/MM G, VSSC, Indian Space Research Organization (ISRO), Trivandrum
4	Dr. Shibayan Roy	Role of Boron on the Microstructure and Texture Evolution in Ti-6Al-4V-0.1B alloy <i>(The thesis won Prof. K.P. Abraham Medal for best Ph.D. thesis in the field of Materials; also won best thesis award from Indian National Academy of Engineering (INAE))</i>	2011	Associate Professor, IIT Kharagpur
4	Dr. K.S. Suresh	Evolution of texture and microstructure in NiTi-based shape memory alloys and its impact on shape memory	2012	Associate Professor, IIT Roorkee

		behaviour		
6	Dr. Madhavan Radhakrishnan	Role of stacking fault energy on texture evolution in micro- and nano-crystalline Ni-Co alloys	2013	Research Scientist, UNT.
7	Dr. Rama Krushna Sabat	Evolution of microstructure and texture during severe plastic deformation of a Magnesium-Cerium alloy	2014	Associate Professor, IIT Bhubaneswar
8	Dr. Naresh N. (Co-supervisor: Prof. S.V. Kailas)	Development of Microstructure, Texture and Residual Stresses during Friction Stir Processing of Aluminium Alloys	2015	<i>Adolf-Martens-Fellowship</i> , Bundesanstalt für Materialforschung und –prüfung, GERMANY
9	Dr. Amit Sharma (Co-supervisor: Prof. S. Mohan)	Evolution of crystallographic texture and microstructure in sputter-deposited NiMnGa films and their influence on magnetic properties	2016	Scientist at EMPA Laboratories, Thun Switzerland
10	Dr. Atanu Chaudhury	Hot deformation behaviour of some refractory metals and alloys	2016	Lead Material Scientist at Ge
11	Dr. Amlan Kar (Co-supervisor: Prof. S.V. Kailas)	A study of optimization and micro-mechanism in friction stir welding of aluminum to titanium	2017	Lecturer, South Dakota Mines
12	Dr. Anuj Bisht (Co-supervisor: Prof. G. Jagadeesh)	Response of shock loading on microstructural and texture evolution in close-packed metallic materials	2017	Assistant Professor, IIT Roorkee
13	Dr. Sathishkumar S. (Co-supervisor: Prof. G. Mohan Rao)	Sputter-deposited ZrC and NbC films - Studies on Microstructure, Texture and Hardness	2018	Post doctoral fellow at IISc
14	Dr. R. Kalsar	Evolution of Microstructure and Texture in Manganese Steels	2018	Scientist at PNNL
15	Dr. S. Bahl (Co-supervisor: Dr. K. Chatterjee)	Nanoscale surface engineering of metallic biomaterials for enhancement of mechanical and biological responses	2018	Scientist at ORNL
16	Dr. N.S. Prasad (Co-supervisor: Prof. R. Narasimhan)	Experimental and numerical studies on Mode-I ductile fracture behavior of Magnesium	2018	Senior Engineer at BISS
17	Dr. Abhishek M. More	Control of texture and microstructure in Aluminium-Lithium alloy AA2195 and its	2018	Asst. Prof. at College of Engineering,

		response on mechanical properties		Pune
18	Dr. Chandrasekhar P. (Co-supervisor: Prof. S. Kumar)	Development of wrought Mg-Li based alloys with improved strength and ductility	2018	Research fellow at EnRI-NTU Singapore
19	Dr. Nitish Bibhanshu	Solidification, Phase Transformation and Hot Deformation of Titanium Aluminide	2019	Assistant Professor, IIT Ropar
20	Dr. Shriparna Mukherjee (Co-Supervisor: Prof. K.C. Chattopadhyay)	Development of Copper Telluride based thermoelectric materials: Synthesis, microstructure and properties.	2019	Scientist, Netherlands organization for applied scientist research (TNO)
21	Dr. Srijan Acharya (Co-Supervisor: Prof K.Chatterjee)	Development of a low modulus Ti-Nb-Ta-O alloy for orthopedic applications	2019	Assistant Professor, NIT Rourkela
22	Dr. Krishna Verma (Co-Supervisor: Prof. S. Kumar)	Development of Wrought TZ73 Magnesium Alloy	2020	Post-Doctoral Research Associate at the University of North Texas, USA.
23	Dr. Yazar K U	Dwell Fatigue of Titanium Alloy	2021	Assistant Professor, VIT Vellore.
24	Dr. Sarvesh Kumar (Co-Supervisor: Prof. K.C. Chattopadhyay)	Development of materials for application at high temperatures	2022	Materials Engineer
25	Dr. Gyan Shankar	Evolution of recrystallisation texture in face-centered cubic materials: Role of twin boundaries	2021	Post-Doctoral Research Associate, Oak Ridge National Laboratory, USA.
26	Dr. R. J. Vikram	Structure-Property Correlation in Additively Manufactured High-Temperature Materials: Insights from Nickel-Base Superalloy IN718 & Nickel-Base Eutectic High Entropy Alloy AlCoCrFeNi_{2.1}	2023	Alexandar von Humboldt Research Fellow, KIT, Germany
27	Dr. Deepak Kumar	Microstructure-texture-mechanical property correlation	2023	Research Engineer, Saint-

		in additively manufactured stainless Steel 316L and Cu-Ni-Sn		Gobain Research India, Chennai
28	Dr. Soumita Mondal	Microstructure-Texture-Property Correlation of SPD-processed materials	2023	Post-Doctoral fellow at University Illinois Urbana-champaign, USA
29	Dr. Vivek Chandravanshi	Effect of thermo-mechanical treatment on the evolution of microstructure and mechanical properties in a β and a β rich $\alpha+\beta$ titanium alloy	2024	Scientist, DMRL, Hyderabad
30	Dr.Saurabh Kumar Gupta (Co-Supervisor: K.Chatterjee)	Additively manufactured beta Titanium alloy for bone implant application	2024	Post-Doctoral Research Associate at IISc, Bangalore
31	Dr. Shavi Agrawal (Co-Supervisor: G.S. Avadhani)	Additive Manufacturing of Ni-based Superalloy	2025	PostDoc at Catholic University of Louvain, Belgium
32	Govind Kumar (Co-supervisor: Prof. S.V. Kailas)	High Pressure Compressive Reverse Shearing, a new severe plastic deformation process	Submitted, 2025	Post-Doctoral Research Associate at IISc, Bangalore
33	Shreshtha Ranjan(Co-supervisor: Prof. G. Jagadeesh)	Deformation of HCP metals and alloys under extreme strain rates: Effects of shock waves	Submitted, 2025	Post-Doctoral Research Associate at IISc, Bangalore
34	Himanshu Gupta(Co-supervisor: Prof. S. Gopalakrishnan)	Elastic Wave propagation in textured polycrystalline media	Submitted, 2025	Post-Doctoral Research Associate at IISc, Bangalore

- ***Master's Dissertation supervised***

- A. Master of Science (Engg.) Dissertation***

Ms. Rohini Garg (Co-supervisor: Prof. S. Ranganathan) 2007
(Study of evolution of texture and microstructure during different modes of rolling and annealing of two phase ($\alpha+\beta$) brass)

Mr. Rushikesh Kailas Sabban , MS (2016-2018) (jointly with Dr. Kaushik Chatterjee)
(Tailoring of Mechanical-Biological-Electrochemical response of 3-D printed Titanium alloys for Biomedical application)

- ***Master of Engineering Dissertation***

	Name	Dissertation title	Year
1	Mr Lokesh Paliwal (Co-supervisor: Prof. S. Ranganathan)	Reconstruction of 3D Microstructures using montage based serial sectioning technique in alloy A356 and A356 with 20 wt% SiC	2006
2	Mr J. Krishna Reddy	Processing-texture-property correlation in materials processed by Equal Channel Angular Extrusion	2007
3	Mr Shishir Jain (Co-supervisor: Prof. S. Ranganathan)	Reconstruction of 3D microstructures using serial sectioning techniques: Titanium alloy and Steel	2007
4	Mr Ayan Bhowmik	Severe plastic deformation of Interstitial Free Steel	2008
5	Mr Subhasis Sinha	Grain boundary engineering of modified Super-304H Austenitic Steel	2009
6	Mr Pankaj Kumar	Processing-microstructure-texture correlation in high carbon steels	2010
7	Mr P Arun Dinesh	Accumulative roll bonding of aluminium and magnesium alloys	2010
8	Mr G. Kannan (Co-supervisor: Prof. M.K. Surappa)	Deformation and recrystallization behaviour of Mg/Mg-alloy SiC composites	2010
9	Mr Sajal Hatwal	Study of processing-texture-property relationship in ultrafine grain high carbon steels for wire applications	2011
10	Mr Aviral Madhup	Accumulative roll bonding of aeronautical grade magnesium alloys	2011
11	Mr Nachiketa Ray	Shock wave deformation of aluminium alloys	2012
12	Mr Shekhar Tapase (Co-supervisor: Dr. G.S. Avadhani)	Processing-texture-mechanical property correlation in WE43 alloy	2012
13	Mr Poshit Nag	Understanding texture and functional property relationships in thin films	2013
14	Ms K. Sahithya (Co-supervisor: Dr. G.S. Avadhani)	Processing-property relationship in high-temperature magnesium alloy	2013
15	Mr Sudipta Pramanik	Development of low density steels and their processing-texture-property relationship	2014
16	Mr Subrato Panda (Co-supervisor: Dr. G.S. Avadhani)	Texture-property relationship in some titanium alloys	2014
17	Mr Tushar Pund	Processing-microstructure-texture correlation in	2015

		some low density ferritic and pearlitic steels	
18	Ms. Nikki Kamble (Co-supervisor: Dr G.S. Avadhani)	Effect of strain rate and temperature on the processing-microstructure correlation in AM 30 and AM 50 Alloys	2015
19	Mr. Subhas Kumar	Study of texture and microstructure evolution during high temperature and high strain rate deformation of HCP materials	2016
20	Mr. Awadh Kishor Gupta (Co-supervisor: Dr G.S. Avadhani)	Effect of alloying addition on interlamellar spacing in pearlitic grade steel	2016
21	Mr Himanshu Singh	Severe plastic deformation of Al-Cu-Li alloy by accumulative roll bonding	2017
22	Mr Basavaraj B. (Co-supervisor: Dr G.S. Avadhani)	The Effect of Alloying additions and Heat-treatment on the Mechanical Properties of Nano-pearlitic steel and Optimization of Hot Workability by developing a Processing map	2017
23	Mr. Pramod K. Singh	The effect of alloying addition on the Microstructure and Mechanical Properties of Ferritic-Pearlitic Steels and the Study of Hot Deformation Behavior	2018
24	Mr. V. Teja	Mechanical Behavior of Medium Mn-TWIP steels for automotive applications	2018
25	Ms. Natasha Prasad (Co-supervisor: Dr G.S. Avadhani)	Study of deformation and recrystallization behavior in High Entropy Alloy (CoCuFeMnNi)	2018
26	Mr. Kayyam sai pranay teja (jointly with Dr. G. S. Avadhani)	Optimization of Mechanical Properties of Rail Steel by Thermo-Mechanical-Treatment	2019
27	Ms. Shamitha Sri Muduru	Effect of microstructure on dwell-fatigue of titanium alloy	2020
28	Mr. Kukkala Prasanna Kumar Reddy	Spark Plasma Sintering of Orthopaedic Beta-Ti (TNZT)Alloy	2021
29	Mr. Sagar Gupta	Recrystallization simulation using Cellular Automata	2021
30	Mr. Niranjan Tanneer	Effect of crystal orientation on microstructure and texture of shock loaded AM30 magnesium alloy	2022
31	Ms. Kunapuli Susmitha	Wire Arc Additive Manufacturing of Copper Cladding on SS316	2022
32	Ms. A Kiruthika (jointly with Dr. Dheepa Srinivasan, Pratt& Whitney R& D Center, Bangalore)	Microstructural characterization, mechanical and corrosion behaviour of additively manufactured alloys	2022
33	Mr. Rashmi Ranjan Sethi (jointly with prof.Subhodh Kumar)	Effect of asymmetric rolling on magnesium alloy AM 30	2022

34	Ms. Deepika Kumari Sahu	High Temperature Study of High Entropy Alloy(Cantor Alloy)	2022
35	Mr. Muralidhar Yadav	3D Printed Biomaterials for implant applications	2023
36	Mr. Bhaskarjyoti Das	Structure-property correlation in additively manufactured alloys	2023
37	Mr. Aryan Kumar	High temperature deformation behaviour of Ni based superalloy Haynes 282	2023
38	Mr. Subham Chatteraj	Temperature effect of Dwell fatigue in near alpha Ti alloy	2024
39	Ms. Chetaneshwari Jitendra Nivargi	Microstructural Features of Dwell Fatigue in Near-alpha Ti alloys	2025
40	Mr. Somisetty Mahesh	Effect of SMAT on WAAM-fabricated steel and copper	2025
41	Mr. Aluri Sai	The study on additively manufactured Ti-35Nb-7Zr-5Ta biomaterials in orthopedic applications	2025
42	Ms. Vaishnavi Menon	Study of Quaternary Mg-Zn-Ca-Yb alloy for biomedical implant application	2025

- **Conference organized**

Sl. No.	Name of the International Conferences	Date	Location
1	<i>International Conference on Texture and Microstructure of Steels</i> ” held in Jamshedpur, INDIA (co-organised with Dr. A. Halder and Dr. D. Bhattacharjee)	5-7 th February, 2008	Tata Steel, Jamshedpur
2.	<i>“International Conference on Texture of Materials (ICOTOM 16)”</i> (co-organised with Prof. I. Samajdar & team of IIT Bombay)	12-17 th December 2011	IIT, Bombay
3	<i>“International Conference on Strength of Materials (ICSMA-16)”</i> (co-organised with Profs. A.H. Chokshi and S. Karthikeyan of IISc, Bangalore)	19-24 th August 2012	IISc, Bangalore
4.	<i>‘International Conference on Texture of Materials (ICOTOM 2017)’</i>	13 th -15 th Feb. 2017	IISc, Bangalore
5.	Platinum Jubilee Conference (Perspective in Material Research)	21 st -23 rd December, 2022	IISc, Bangalore

6. ***‘International Conference on Nanostructured Materials by Severe Plastic Deformation (Nano SPD8)’***
(co-organised with Prof. Praveen Kumar) 26th Feb. -3rd March, 2023 IISc, Bangalore
7. International Conference on creep and fracture of Engineering materials and structures
(co-organised with Prof. Praveen Kumar) 28th July-2nd August 2024 IISc, Bangalore

• ***Short-term course organized***

Course	Sponsoring agency	Duration	Target group
<i>DST - SERC school on Texture and Microstructure</i>	Department of Science and Technology	1 week	Faculty and research scholars from NITs and other Govt. colleges, Scientists from National R&D labs
<i>SERB school on Mechanical testing of Materials</i>	Science and Engineering Research Board	10 days	Faculty and research scholars from NITs and other Govt. colleges, Scientists from National R&D labs
<i>CCE course on X- ray Diffraction and Applications</i> (Co-organizer: Prof. Rajeev Ranjan)	Centre for continuing Education, IISc	1 week	Faculty and research scholar from NITs and other Govt. colleges
<i>Course on Introduction to Texture and its applications</i>	Centre for continuing Education, IISc & Tata Steel, Jamshedpur	1 week	Researchers and Engineers of Tata Steel

NRC-M PROJECTS

The Department of Materials Engineering at IISc was granted the status of Networking Resource Centre for Materials by The University Grants Commission, Govt. of India. Under this program, the faculty members from IISc are expected to network with faculty members of Materials Departments of government colleges all across the country, and promote research in those institutions through collaborative research program. I participated quite extensively in this program and initiated collaborative research activities in the following institutions:

Sl. No.	Date of Approval	Title of the Project	Institution	Name of the Faculty Collaborator
1	1-Jan-2009	Microstructure and Texture Dependence of Mechanical Properties in Some Magnesium Alloys	National Institute of Technology, Tiruchirappalli	Dr. S. Kumaran
2	22-Apr-2009	Effect of Processing Routes on Microstructures and Mechanical Properties of 2014 Al Alloy	National Institute of Technology, Tiruchirappalli	Dr. B. Ravisankar
3	6-Jul-2012	Effect of surface mechanical attrition (shot peening) on nitriding behavior of steels	College of Engineering, Pune	Dr. Santosh. S. Hosmani and Prof. M. J. Rathod
4	14-Sep-2012	Recrystallization Texture in CP Titanium	National Institute of Technology, Rourkela	Dr. S. K. Sahoo
5	1-Oct-2012	High Strain Rate Deformation Behaviour and Texture Study of Magnesium Based Alloys	National Institute of Technology, Raipur	Dr. Manoj Kumar Chopkar
6	1-Dec-2013	Influence of Ag and Sn on Microstructure and Texture in Al-Zn-Mg Alloys during Severe Plastic Deformation	Indian Institute of Engineering, Science & Technology, Shibpur	Dr. Manojit Ghosh
7	1-Mar-2014	A study of micro-texture and texture evolution in 2205 duplex stainless steel during deformation and recrystallization	Visveshwaraia National Institute of Technology, Nagpur	Dr. Rajesh K. Khatirkar
8	29-Dec-2014	Microstructure of severe plastically deformed materials by X-ray line profile analysis and electron back scattered diffraction	University of Hyderabad	Dr. K.S. Suresh

Lectures delivered at NRC-M workshops

Sl. No.	Name of the workshop	Date	Title of the talk
1	NRC-M Workshop on Microstructural Engineering	25-30 May 2009	Issues pertaining to development of microstructure and texture during severe plastic deformation
2	NRC-M Summer Workshop on Structural Characterization Techniques in Materials Science	29 June – 17 July 2009	X-ray measurement of Texture
3	NRC-M Summer Workshop on Structural Characterization Techniques in Materials Science	29 June – 17 July 2009	X-ray measurement of residual stresses
4	NRC-M Summer Workshop on Structural Characterization Techniques in Materials Science	29 June – 17 July 2009	Quantitative calculations, other applications of X-ray diffraction
5	NRC-M Summer School in Mechanical Property Characterization	14 June - 2 July 2010	Role of microstructure on plastic Deformation
6	NRC-M Summer School in Mechanical Property Characterization	14 June - 2 July 2010	Analysis of data and extraction of materials properties; Instability and necking
7	NRC-M Summer Workshop on Structural Characterization Techniques in Materials Science	27 June – 14 July 2011	X-ray measurement of Texture
8	NRC-M Summer Workshop on Structural Characterization Techniques in Materials Science	27 June – 14 July 2011	X-ray measurement of residual stresses
9	NRC-M Workshop on X-Ray Diffraction Methods	26 – 31 December 2011	Texture analysis by X-ray Diffraction
10	NRC-M Summer School in Mechanical Characterization	25 June – 14 July 2012	Role of microstructure on plastic Deformation
11	NRC-M workshop on Scanning electron microscopy	17 – 21 December 2012	Electron back-scatter diffraction
12	NRC-M Workshop on Magnesium Alloys: Structure, Processing, Properties and Applications	5 – 6 May, 2014	Wrought processing
13	NRC-M Workshop on Severe Plastic Deformation and Bulk Nanostructure Materials	12-14 May, 2014	Grain refinement and other microstructural aspects in severe plastic deformation processes

14	NRC-M Workshop on Severe Plastic Deformation and Bulk Nanostructure Materials	12-14 May, 2014	Grain refinement and other microstructural aspects in severe plastic deformation processes
15	NRC-M Workshop on Texture of Materials)	15-19 February 2015	Introduction to texture
16	NRC-M Workshop on Texture of Materials	15-19 February 2015	Representation of texture

- ***Administrative/ professional engagements (outside IISc)***

- Co-Chair, Mining, Metallurgical, and Materials panel, Anusandhan National Research Foundation.
- Project Director, PAIR Program, Anusandhan National Research Foundation.
- Member, Materials and Manufacturing panel of Aeronautics Research and Development Board (AR & DB), Ministry of Defence, Govt. of India.
- Member of the Technical Advisory Group for ARCI's (Advanced Research Centre International (ARCI) for Powder Metallurgy and New Materials) Centre for Materials Characterisation and Testing, Department of Science and Technology, Govt. of India.
- Invited many times as subject expert for the selection of Scientists for *Defence Research and Development Organization by Recruitment and Assessment Council* (RAC), DRDO, Govt. of India, and for the promotion of scientists working in the *Department of Atomic Energy*, Govt. of India.
- Served as an examiner for 35 Ph.D. thesis from the premier institutions of India and abroad
- Former Member of the Young Scientist Committee in the area of Engineering Sciences, SERB, Department of Science and Technology, Govt. of India.
- Former Invited Member of the Senate of IIT Goa
- Former Council member, Indian Institute of Metals
- Council member, Electron Microscope Society of India
- Past Chairman, Indian Institute of Metals, Bangalore Chapter