

CURRICULUM VITAE



1. Personal Details

Name and correspondence address : Dr. Ashok Kamaraj
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Institution : Indian Institute of Technology Hyderabad

Date of birth : 1st Dec 1989

Date of CV : 10/05/2024

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2. Degrees

S.No	Degree	Award date	Subject	Institute & University	% Marks
01	PhD.,	March 2020	Materials & Metallurgical Engineering	CSIR-NML Jamshedpur, AcSIR [#]	NA
02	M.Tech.,	August 2014	Materials & Metallurgical Engineering	CSIR-NML Jamshedpur, AcSIR [#]	9.07
03	B.E.,	May 2011	Metallurgical Engineering	Govt. College of Engineering, Anna University, Chennai	9.18

[#] ACSIR – Academy of Scientific and Innovative Research, Ghaziabad, India

Details of Ph.D. thesis:

Title : Analysis and Control of Slag Carryover during Steelmaking

Guides/Supervisors : Dr. Gopi K Mandal, CSIR-NML and Prof. Gour G Roy, IIT Kharagpur

Institute : CSIR-NML, Jamshedpur, India

University : AcSIR, Ghaziabad, India

Contact details : Dr. J. K. Sahu, AcSIR Coordinator, CSIR-NML

jksahu@nmlindia.org

Year of thesis submission/degree awarded : May 2019 / March 2020

3. Language Skills

Full proficiency : English
Working proficiency : Hindi
Mother tongue : Tamil

4. Current Employment

S No	Positions Held	Name of the Institute	From	To
1	Assistant Professor	Dept. of Materials Science and Metallurgical Engineering, Indian Institute of Technology Hyderabad	27.12.2021	Present

5. Previous Work Experience

S No	Positions Held	Name of the Institute	From	To
1	Senior Scientist	CSIR-NML, Jamshedpur	08.09.2019	24.12.2021
2	Asst. professor	AcSIR, CSIR-NML, Jamshedpur	17.08.2020	24.12.2021
3	Scientist	CSIR-NML, Jamshedpur	08.09.2015	07.09.2019
4	Tr. Scientist	CSIR-NML, Jamshedpur	03.09.2012	07.09.2015
5	Scientist	Bureau of Indian Standards	01.05.2012	30.08.2012
6	Deputy Manager	Corporate Technology Center, TPI, Murugappa Groups	01.03.2012	30.04.2012
7	GET	JSW Steel Ltd	23.05.2011	28.20.2012

6. Research Funding and Grants (after joining IITH)

SNo	Title (<i>Project number</i>)	Cost (Rs. lakhs)	Duration	PI / Co-PI #	Agency
1	Investigation on Direct Reduction using Ammonia: A Novel Green Alternate Ironmaking Process	235.44	2 years	PI	Ministry of steel supported by Greenko and Ants Innovation
2	Modeling and Simulation of hot metal desulphurization unit (S289)	13.80	3 years	PI	Jamipol Limited, Jamshedpur
3	Mineralogical and Microstructural studies on high alumina iron ore fines and their influence on	30.94	1 year (ongoing)	PI	Tata Steel Ltd, Jamshedpur

	pelletizing (S278)				
4	Reductive/Direct Alloying Technique for Making Lightweight (low-density) Steel (<i>SG120</i>)	30	02 years (ongoing)	PI	Seed grant (IIT H)
<u>(Before joining IITH)</u>					
4	Development of hydrogen standard in steel (<i>FTT 31 02</i>)	14	01 year (completed)	PI	CSIR HQ (FTT Project)
5	Control and analysis of non-metallic inclusion in semi-finished electrical steel (<i>OLP 256</i>)	15	04 years (completed)	PI	CSIR-NML (In-house project)
6	Development and fabrication of cannon liners for explosive testing – (<i>GAP 256</i>)	56.38	2.5 years (ongoing)	PI [#]	CIMFR, Dhanbad
7	Dip mold simulator-based technique for qualification of mold powders for crack sensitive grade steels (<i>CLP 201</i>)	35	21 months (completed)	PI	Tata Steel Ltd, Jamshedpur
8	Scale up and commercialization of indigenously developed hydrogen standard in steel (<i>FTC 31 04</i>)	78.5	01 year (completed)	PI	CSIR HQ (FTC Project)
9	Reduction of energy consumption in iron ore sintering by modified coke breeze distribution (<i>CLP</i>)	28	01 year (completed)	Co-PI	Tata steel Ltd, Jamshedpur
10	Development of advance steels by thin strip casting and direct rolling (<i>OLP</i>)	10	01 year (completed)	Co-PI	CSIR-NML (In-house project)
11	Preparation and certification of hydrogen standard (CRM) in steel (<i>OLP 370</i>)	2.7	06 months (completed)	PI	CSIR-NML (In-house project)
12	Development of a Cost-Effective Refractory Lining Materials for Induction Melting Furnace Suitable for Production of Quality Steel: Phase II Industrial Trials (<i>GAP 281</i>)	68	18 months (ongoing)	Co-PI [#]	Ministry of Steel (NISST & CGCRI)
13	Development of CS analytical and Charpy Impact Specimen physical standard in steel	99.4	24 months (ongoing)	PI [#]	CSIR HQ (FTT Project)
14	Study on Mold flux-liquid steel interaction using lifting hearth furnace	7.5	6 months (ongoing)	PI [#]	Tata Steel Ltd, Jamshedpur
15	Study on dephosphorization of hot metal in induction furnace	5.4	6 months (completed)	PI	Tata Steel Ltd, Jamshedpur
Research projects participated as a member					
16	Effect of processing parameters on cryo impact properties of cast alloys	30.12	24 months (ongoing)	Member	VSSC, Trivandrum
17	Amorphous Electrical Steel (AES) for Energy Application	3634	03 years (completed)	Member	Ministry of Steel, Govt. of India
18	Identifying causes for crack	40	01 year	Member	RINL,

	development in billets and rounds during hot rolling at VSP		(completed)		Vizhakapatnam
19	Investigation on hydrogen trapping characteristics of precipitate/matrix interfaces in micro-alloyed steel	43	01 year (completed)	Member	Tata Steel Ltd, Jamshedpur

PI: Principal Investigator, Co-PI: Co Principal Investigator # till 24th Dec 2021

7. **Research Output**

Journal Publications:

Total number of publications: 29 (24 SCI & 5 Non-SCI)

1. [*A novel approach for the efficient recovery of lead from End-of-Life Silicon Photovoltaic modules*](#): D.S. Prasad, P.P. Srinivasa Kumar, B. Sanjana, D. Sai Kiran, **Ashok Kamaraj**, R. Ratheesh: Solar Energy Materials and Solar Cells (2024) Vol. 266 112672.
2. [*Prediction of the shift in melting mode during additive manufacturing of 316L stainless steel*](#): Ansuman Dash, **Ashok Kamaraj**: Materials Today Communications (2023) Vol. 37 107238.
3. [*Fabrication of functionally graded material via gas tungsten arc welding based wire feeding additive manufacturing: Mechanical and microstructural characterization*](#): D Veeman, M Alruqi, M K Subramanian, S S Nallathambi, M A Browne, **Ashok Kamaraj**: Materials Letters (2022) 13278.
4. [*The Role of Slag Carryover on the Non-metallic Inclusion Evolution and Magnetic Behavior in Electrical Steel*](#): **Ashok Kamaraj**[#], P Murugaiyan, G K Mandal, G G Roy: Materials and Metallurgical Transactions B (2022) Vol. 53B, p. 1989-2003.
5. [*Quantification and Analysis of Slag Carryover during Liquid Steel Tapping from BOF Vessel*](#): **Ashok Kamaraj**[#], G K Mandal, S Shanmugam, G G Roy: Canadian Metallurgical Quarterly (2022) Vol. 61, 2, p. 202-215.

(Before joining IITH)

6. [*Characterization and Assessment of Mold Flux for Continuous Casting of Liquid Steel Using an Inverse Mold Simulator*](#): **Ashok Kamaraj**[#], S. Tripathy, G. Chalavadi, P. P. Sahoo, S. Misra: Steel Research International (2021) Vol. 93, 3, p. 2100121.
7. [*Role of Synthetic Slag Treatment on the Morphology of Non-Metallic Inclusions and Subsequent Cold Drawability of the High Carbon Wire Rod Steel*](#): Alok Srivastava, **Ashok Kamaraj**[#], D Mandal, K Mandal, G. K. Mandal: Metals and Materials International (2022) Vol. 28, pp. 1763-1777.
8. [*A comparative study on environmental impact analysis of synthetic and ESR flux used for refining of steel*](#): **Ashok Kamaraj**, Rohit B Meshram[#]: Procedia CIRP (2021) Vol. 98, p. 448-451.
9. [*Investigation on Mould Flux Melting and Consumption during Continuous Casting of Liquid Steels*](#): **Ashok Kamaraj**[#], Ansuman Dash, Premkumar M, Siddhartha Misra: Materials and Metallurgical Transactions B (2020) Vol. 51B, p. 2159-2170.
10. [*High Temperature simulation of continuous casting mould phenomena*](#): **Ashok Kamaraj**[#], N. Halder, Premkumar M, and S. Misra: Transaction of Indian Institute of Metals, Vol. 73, 8 (2020) p. 2025-2031. **(Best Paper award in IMME 2019)**

11. [Thermodynamic Assessment of Steelmaking Practices for the Production of Re-sulfur Steels](#): Prithiv T. S, Thirumurugan G, Madan M and **Ashok Kamaraj[#]**: Transaction of Indian Institute of Metals, Vol. 73, 6 (2020) p. 1595-1603.
12. [Development of speciality grade wire by controlling the inclusions in high carbon steel using synthetic slag treatment](#): G. K. Mandal, **Ashok Kamaraj[#]**, M. M. Humane, R. K. Minj, S. K. Das, R. B. V Ramana and T. Venugopalan: Transaction of Indian Institute of Metals Vol. 72, 2 (2019) p. 369-381.
13. [Control of Slag Carryover from BOF Vessel during Tapping: BOF Cold Model Studies](#): **Ashok Kamaraj[#]**, G.K. Mandal, G G Roy: Materials and Metallurgical Transactions B, (2019) Vol. 50B, p. 438-458.
14. [Role of precipitates in recrystallization mechanisms of Nb-Mo micro-alloyed steel](#): Gopi K. Mandal[#], Siddhartha S. Das, Tipu Kumar, **Ashok K.**, K. Mondal, V. C. Srivastava: Journal of Materials Engineering and Performance, (2018) Vol. 27(12), p. 6748-6757.
15. [Development of stretch flangeable grade steels by Inclusion Engineering Approach](#): G. K. Mandal, **Ashok K[#]**, S. K. Das, P. Biswas, R. B. Sarkar, Sundara Bharathy R, V.C. Srivastava: Journal of Materials Engineering and Performance, (2018) Vol. 27(11), p. 5622-5634.
16. [On the Inter-critical Annealing Parameters and Ensuing Mechanical Properties of Low-Carbon Medium-Mn Steel](#): Gaurav K. Bansal[#], D.A. Madhukar, A.K. Chandan, **K. Ashok**, G.K. Mandal, V.C. Srivastava: Materials Science and Engineering A, Vol. 733 (2018) p 246-256.
17. [Investigation on Causes of Defect Formation during Hot Rolling of Steel Blooms](#): **Ashok Kamaraj[#]**, Gopi K Mandal, A P Murugesan, P Anil Kumar, Vikas C Srivastava and Manoj M Humane: Steel Tech, Vol. 12 No 4 (2018) p. 42-50.
18. [State of the Art Control Measures for Aluminium Fade and SEN Clogging during Steelmaking Operations](#): **Ashok Kamaraj[#]**, R Saravanakumar and M Rajaguru: IOP Conference Series: Materials Science and Engineering, Vol. 314 (2018) p. 012022.
19. [Microbiological corrosion of ASTM SA105 carbon steel pipe for industrial fire water usage](#): S Chidambaram[#], **K Ashok**, V Karthik and P G Venkatakrishnan: IOP Conference Series: Materials Science and Engineering, Vol. 314 (2018) p. 012027.
20. [Shear Fracture and Industrial Overload Failure of Mechanical Fuse Shear Pin](#): S Chidambaram[#], **Ashok Kamaraj**, R Saravana Kumar and V Karthik: IOP Conference Series: Materials Science and Engineering, Vol. 377 (2018) p. 012004.
21. [Process evaluation of AOD stainless steel making in Salem Steel Plant, SAIL](#): **Ashok K[#]**, Sankar P, Maruthupandian K: Journal of Metallurgy and Materials Science, Vol. 59, No. 4, October-December 2017, p. 173-180.
22. [Characterization and Evolution of Non-metallic Inclusions in Fe-Al-Si-O System](#): **Ashok K[#]**, G K Mandal, R K Minj, S Misra, D Bandyopadhyay: Transaction of Indian Institute of Metals Vol. 70 7 (2017) p. 1887-1899.
23. [Experimental investigation on microstructure and mechanical properties of gravity-die-cast magnesium alloys](#): Palash Poddar, Sumanta Bagui, **K Ashok**, A P Murugesan[#]: Journal of Alloys and Compounds, Vol. 695, (2017) p. 895 – 908.
24. [Estimation and analysis of excess oxygen input into ladle during liquid steel tapping](#): **Ashok K[#]**, S Hore, G G Roy, G K Mandal: Transaction of Indian Institute of Metals Vol. 70 9 (2017) pp 2465-2476. **(Best Paper award in IMME 2017)**
25. [Microstructural features of Mg-8%Sn alloy and its correlation with mechanical properties](#): P Poddar[#], **Ashok K**, A P Murugesan, S Bagui, K L Sahoo: International Journal of Magnesium and Alloys Vol 5 3 (2017) p. 348-354.
26. [Failure investigation of an industrial crankshaft made of ductile iron](#): S Chidambaram[#], **Ashok Kamaraj**: Advances in Natural and Applied Sciences (2017) Vol 11 (8), p. 25-30.

27. [Theoretical Investigation on Deoxidation of Liquid Steel for Fe-Al-Si-O System: Ashok K[#]](#), G K Mandal, D Bandyopadhyay: Transaction of Indian Institute of Metals Vol. 68 (2015) sp - 1, p. 9-18.
28. [Micro-mechanical behaviour of AA2014 Alloy during Hot Tensile Testing: Ashok K[#]](#), K Maruthupandian, K Ganesh Kumar, S Vishal: Transaction of Indian Institute of Metals Vol. 68 (2015) sp - 1, p. 19-24.
29. [Effect of Steel Making Slag on Castability of Medium Carbon Re-sulphur Steel Grades: Ashok K[#]](#), Venkatesan J, P G Venkatakrishnan: Advanced Materials Research Vol. 585 (2012) p. 364-368.

[#] Corresponding author

8. **Publications in Conference Proceedings:**

Total number of publications in conference proceedings: 14 (12 International & 2 National)

1. Ashok Kamaraj[#], ["Glimpses of research on clean steel practices at CSIR-NML"](#) in an international seminar on Innovative Technologies for Production and Processing of Iron & Steel to remain Competitive & Sustainable, organized by Steel Tech, Kolkata on 19th Sep 2019.
2. Ashok Kamaraj[#], Nimai Haldar, Premkumar Murugaiyan, and Siddhartha Misra, ["High-Temperature Simulation of Continuous Casting Mould Phenomena"](#) in a national conference on Advances in Process Metallurgy organized by Indian Institute of Science Bangalore during 4-5th July 2019.
3. Ashok Kamaraj[#], Kotta Navya, G G Roy, G K Mandal, ["Modelling and simulation studies on Liquid Steel Transfer Operations"](#) in an international conference on Asia Steel [2018], organized by Tata Steel Ltd and Indian Institute of Metals, Bhubaneswar.
4. Ashok Kamaraj[#], Sushil Kumar, G G Roy, G K Mandal, ["Quantitative and Qualitative Analysis of Non-metallic Inclusions in Low Alloy Steel"](#) in an international conference on Asia Steel [2018], organized by Tata Steel Ltd and Indian Institute of Metals, Bhubaneswar.
5. Ashok Kamaraj[#], G G Roy, G K Mandal, ["Modelling and simulation studies on BOF Tapping Process"](#) in an international conference on Science and Technology of Ironmaking and Steelmaking [STIS-2017], Indian Institute of Technology, Kanpur. (Vol 1 pp 403-406)
6. Ashok Kamaraj[#], R Saravanakumar, M Rajaguru, ["State of the Art Control Measures for Aluminium Fade and SEN Clogging during Steelmaking Operations"](#) in an international conference on Advances in Metallurgy, Materials and Manufacturing [ICAMMM-2017], Government College of Engineering, Salem. (Vol 1, p. 271 – 277)
7. Chidambaram S[#], Ashok K, ["Failure Investigation of industrial crank shaft made of cast iron"](#) in an international conference on Advances in Metallurgy, Materials and Manufacturing [ICAMMM-2017], Government College of Engineering, Salem. (Vol 1, p. 110 – 114)
8. Chidambaram S[#], Ashok K, ["Shear Fracture and Industrial Overload Failure of Mechanical Fuse Shear Pin"](#) in an international conference on Advances in Metallurgy, Materials and Manufacturing [ICAMMM-2017], Government College of Engineering, Salem. (Vol 1, p.)
9. Ashok K[#], G G Roy, G K Mandal, ["Physical modelling Investigation on Vorticity Dynamics During Liquid Steel Tapping"](#) in an international conference on Advances in Metallurgy, Materials and Manufacturing [ICAMMM-2017], Government College of Engineering, Salem. (Vol 1, p. 794) **(Best Paper award - ICAMMM 2017)**

10. Ashok Kamaraj[#], “[*Clean steel practices in steelmaking operations*](#)” in a national conference on Quality Management Standards & Quality Management Tools (QMS & QTT-2016), MSME, Giridih Chapter. (Vol 1, p. 21 - 24)
11. Ashok K[#], Venkatesan J, P G Venkatakrishnan, “[*Quantification of Slag Carry Over & Its Effect on Melting Practice of Medium Carbon Re-sulphur Steel Grades*](#)” in an international Conference on Science and Technology of Iron making and Steelmaking [STIS-2013], CSIR-NML Jamshedpur, Dec 16-18 2013.
12. Ashok K[#], Sankar p, Maruthupandian K, P G Venkatakrishnan “[*Process Evaluation of AOD Stainless Steel Making in Salem Steel Plant, SAIL*](#)” in an International Conference on Science and Technology of Iron making and Steelmaking [STIS-2013], CSIR-NML Jamshedpur, Dec 16-18, 2013.
13. Ashok K[#], P G Venkatakrishnan, “[*Formation of Alumina Inclusion and their Control Measures*](#)” in an International Conference on Recent Advancement in Material Processing [RAMP-2011], PSG College of Technology, Coimbatore.
14. Ashok K[#], Premkumar M, Ganesh Kumar K, P G Venkatakrishnan “[*Inclusion Prediction and Evaluation of carbon Removal Efficiency in AOD Stainless Steel Making*](#)” in an International Conference on Recent Advancement in Material Processing [RAMP-2011], PSG College of Technology, Coimbatore.

[#] Corresponding author

9. **Software:**

1. [*DeoxyCalc-Version 1.0*](#)” *A computer model for prediction of the amount of deoxidizers in Ladle Furnace*: Software copyright: Ashok K, Gopi K Mandal, D Bandyopadhyay: CR-0092/2014, India.

10. **Patents:**

1. [*Design of an auto dip mould simulator for simulation of initial solidification behaviour during continuous casting process*](#): Equipment Design Patent: Ashok K, Ammasi A, Madan M, Nimai Haldar, Uday Bhaskar Rao, Ranjneesh Kr Gupta: NML/PAT0569/2019/IN, P/1152/12/2019, India

11. **Most significant artistic works and processes (Technology)**

1. [*Know-How for Hydrogen standard in steel: Certified Reference Materials \(CRM\)*](#): Ashok K, J K Sircar, A K Upadhyay, D Bandyopadhyay, M M Humane, J N Patel, D P Singh: CRM -501, July 2020, India.

12. **Research Supervision and Leadership Experience (@ IITH)**

S.No	Item	Status	Role	Numbers
1	Undergraduate thesis	Completed (Ongoing)	Principal supervisor	1
			Co-supervisor	-
2	Master thesis	Completed (Ongoing)	Principal supervisor	3 (5)
			Co-supervisor	-
3	Ph.D. thesis	Completed (Ongoing)	Principal supervisor	(8)
			Co-supervisor	(3)
4	Research project – supervision and execution as a leader		Project leader	(4)
			Co-project leader	-

(Before joining IITH)

S.No	Item	Status	Role	Numbers
1	Undergraduate thesis	Completed	Principal supervisor	20
			Co-supervisor	-nil-
2	Master thesis	Completed	Principal supervisor	-nil-
			Co-supervisor	3
3	Ph.D. thesis	ongoing	Principal supervisor	1
			Co-supervisor	-
4	Research project – supervision and execution as a leader		Project leader	9
			Co-project leader	3

13. Teaching Merits

- Course instructor for Advanced Concepts in Process Metallurgy course (MS5640) during Aug-Nov 2022, and Aug-Nov 2023.
- Course instructor for Fundamentals of Extractive metallurgy course (MS330) during Aug-Nov 2022, and Aug-Nov 2023.
- Course instructor for Semiconductor extraction, purification, and refining course (SD5020) during Aug-Nov 2022, and Aug-Nov 2023.
- Course instructor for Modeling & Simulation of Metallurgical Processes course (MS5650) during Aug-Nov 2022, and Aug-Nov 2023.
- Course instructor for Iron and steelmaking course (MS3353) during Jan-Apr 2023 and Jan-Apr 2024.
- Course instructor for Clean Steel Making: Theory, practice, and Modeling course (MS5693/MS5699) during Jan-Apr 2023 and Jan-Apr 2024.
- Course instructor for Ironmaking (~~MS5693/MS5699~~) during Jan-Apr 2023.
- Course instructor for Hydrometallurgy course (EW5080) during Jan-Apr 2022.
- Course instructor for heat treatment lab course (MS3011) during Jan-Apr 2022.
- Course instructor for the industry seminar course (MS5410) for M.Tech. during Jan-Apr 2022.

Before joining IITH

- Taught secondary steelmaking course on “Advances in Steelmaking” course for post graduate students of AcSIR at CSIR-NML, Jamshedpur during Nov 2021.
- Video lectures on Blast Furnace Ironmaking (reactions, phase changes and complexities) published in YouTube channel can be found at [BF Ironmaking by Ashok Kamaraj](#)

14. Awards and Honors

S. No	Name of the Award / Honor	Awarding Agency	Year
1	Young Engineers Award 2023-24	The Institution of Engineers (India)	Feb 2024
2	Editor	Transaction of Indian Institute of Metals	August 2023-present

3	An idea proposed has been shortlisted under “Thinking for Our Planet 75 Ideas (among 2800 entries) to promote LiFE”	NITI AYOOG	June 2023
4	Editor of IIM Metal News	The Indian Institute of Metals, Kolkata	May 2023-present
5	Prof. Shilowbadra Banerjee Award (for the best In-house project)	CSIR National Metallurgical Laboratory, Jamshedpur	Nov 2022
6	Young Metallurgist (Metal Science) Award 2021	Ministry of Steel, Govt. of India	April 2022
7	Reviewer appreciation certificate	Transaction of Indian Institute of Metals	Sep 2021
8	M. S. Khan Memorial award	IIM Jamshedpur Chapter	2020
9	Best Paper award in Oral Presentation (Presenting author)	IMME – International Conference on emerging trends in materials and manufacturing engineering conducted by NIT Trichy	2019
10	Swarna Jayanti Endowment Fund (SJEF): Partial travel grant for young scientist to attend 10 th International conference on Clean Steel at Budapest	Indian Institute of Metals (IIM)	2018
11	Best Paper award in Oral Presentation (Presenting author)	ICAMMM – International Conference on advancement of metallurgy, materials and manufacturing conducted by Govt. College of Engineering, Salem	2017
12	Best Paper award in Oral Presentation (Presenting author)	IMME – International Conference on emerging trends in materials and manufacturing engineering conducted by NIT Trichy	2017
13	Cash award for metallurgical e-book contest	National online contest conducted by IIM Jamshedpur	2014
14	First Prize in Metallurgical Quiz event	Behind the Teacher’s Desk – technical seminar conducted by IIM Jamshedpur, CSIR-NML and TATA Steel	2013
15	First Prize in Oral presentation (Presenting author)	METTLE – technical seminar conducted by NIT Trichy and IIM Trichy Chapter	2011
16	Best Paper award in Oral Presentation (Presenting author)	CHROME – National conference conducted by IIM Trichy Chapter	2010
17	First Prize in Oral presentation (Presenting author)	METTLE – technical seminar conducted by NIT Trichy	2009
18	First Prize in Oral presentation (Presenting author)	SAKSHMA – technical seminar conducted by SASTRA University,	2009

	Thanjavur	
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15. Other Key Academic & Professional Merits

1. One of the **top 3 nominees** (Finalist) for the Institution of Engineering and Technology (IET) India Awards 2022 for the **Youth Engineering Icon Award category**, Nov 2022
2. **Reviewer** in Metallurgical and Materials Transactions B, Journal of Material Research and Technology, Transaction of Indian Institute of Metals, Canadian Metallurgical Quarterly, Steel Research International, Crystals, Journal of alloys and Compounds, Journal of Mining and Metallurgy: Section B, and Materials Today Proceedings.
3. Served as **Joint Secretary** for the *Eastern Region of India Chapter of ASM International USA* located at OP Jindal University, Raigarh, Chhattisgarh, since Feb 2021 to Jan 2022.
4. **Executive Committee Member** of IIM Jamshedpur Chapter, since July 2021 to Dec 2021.
5. **Leader of the process metallurgy theme in the technical sub-committee** to organize an annual technical meeting as a part of *NMD-ATM 2021* organized jointly by Indian Institute of Metals (IIM) and Tata Steel Ltd, Jamshedpur.
6. Served as **Member of Board of Studies – Metallurgical Engineering** constituted by the Department of Metallurgical Engineering of OP Jindal University, Raigarh, Chattisgarh for the duration May 2021 to April 2022.
7. *Member* of the organizing committee in a national essay contest on “*Metals and Materials*” during Jan 2021 organized by IIM Jamshedpur chapter as a part of platinum jubilee year celebration of IIM.
8. *Member* of the organizing committee for conducting “*Prof S N Sinha memorial IIM Essay and Elocution Contest for school students on metallurgy and materials engineering*” during Aug 2019 at CSIR-NML organized by IIM Jamshedpur chapter.
9. *Member* of the organizing committee in a national student seminar on “*e-Behind the Teachers Desk – eBTDD 2020*” during 28th Aug 2020 organized by IIM Jamshedpur chapter in association with CSIR-NML and Tata steel ltd.
2. **Coordinator** of the e-poster competition on “*Disruptive Innovations in Metals and Materials*” held at CFE, Jamshedpur during 13 Feb 2020.
3. **Coordinator** of the Technology based business idea pitching session during *one-day workshop on “Technopreneurship & Skilling: Opportunities and Challenges in Metal Sector (TES 2020)”* held at CFE, Jamshedpur during 10 Feb 2020.
4. Served as **Assistant Secretary** IIM Jamshedpur Chapter from June 2019 to July 2021.
5. Serving as **purchase committee member** of CSIR-NML, since June 2019.
6. **Executive committee member** of IIM Jamshedpur chapter, since 2015 to May 2019.
7. **Chairman of Young Leaders of IIM Jamshedpur chapter**, a shadow wing constituted by IIM Jamshedpur chapter consists of members less than 35 years of age for organizing innovative events in the field of metallurgy and material science to motivate and create interest on young people, activating the student chapter etc.
8. **Convenor** of the undergraduate student’s national seminar “*Behind the Teachers Desk – BTDD 2019*” during Sep 2019 organized by IIM Jamshedpur chapter in association with CSIR-NML and Tata steel ltd.
9. *Member* of the organizing committee for conducting “*Prof S N Sinha memorial IIM quiz for school students on metallurgy and materials engineering*” during Aug 2019 at CSIR-NML organized by IIM Jamshedpur chapter.
10. *Member* of the organizing committee for conducting Indo-German Bilateral Workshop on “*Additive Manufacturing of Metals – way forward and current issues*” during 4-6 Feb 2019 at CSIR-NML organized by CSIR-NML jointly with Leibniz-Institut für Werkstofforientierte Technologien, Bremen, Germany.

11. *Member* of the organizing committee for conducting “*Prof S N Sinha memorial IIM quiz for school students on metallurgy and materials engineering*” during Aug 2018 at CSIR-NML organized by IIM Jamshedpur chapter.
12. **Convenor** of the undergraduate student’s national seminar “*Behind the Teachers Desk – BTDD 2018*” during July 2018 organized by IIM Jamshedpur chapter in association with CSIR-NML and Tata steel ltd.
13. **Coordinator** of the professional training program (PTP) “*Experimental Techniques in Iron and Steelmaking (ETIS 2017)*” held at CSIR-NML during 6-9 Dec 2017.
14. *Member* of the organizing committee for conducting a national workshop on “*Hot Dip Galvanizing Simulator (HDGS)*” during Aug 2017 at CSIR-NML organized by CSIR-NML, Jamshedpur
15. **Convenor** of the event “*Prof S N Sinha memorial IIM quiz for school students on metallurgy and materials engineering*” during Aug 2017 at CSIR-NML organized by IIM Jamshedpur chapter.
16. **Coordinator of the technical committee** in a national student seminar on “*Behind the Teachers Desk – BTDD 2017*” during June 2017 organized by IIM Jamshedpur chapter in association with CSIR-NML and Tata steel ltd.
17. *Member* of the national advisory committee for a TEQUIP-II sponsored “*International Conference on Advances in Metallurgy, Materials and Manufacturing (ICAMMM-2017)*” held at Hotel CJ Pallazzio organized by Dept. of Metallurgical engineering, Govt. college of Engineering Salem in association with IIM Salem Chapter.
18. *Member* of the organizing committee for conducting “*Prof S N Sinha memorial IIM quiz for school students on metallurgy and materials engineering*” during Sep 2016 at CSIR-NML organized by IIM Jamshedpur chapter.
19. **Coordinator of the technical committee** in a national student seminar on “*Behind the Teachers Desk – BTDD 2016*” during June 2016 organized by IIM Jamshedpur chapter in association with CSIR-NML and Tata steel ltd.
20. *Member* of the organizing committee for conducting “*Prof S N Sinha memorial IIM quiz for school students on metallurgy and materials engineering*” during Sep 2015 at CSIR-NML organized by IIM Jamshedpur chapter.
21. *Member* of the organizing committee in a national student seminar on “*Behind the Teachers Desk – BTDD 2015*” during June 2015 organized by IIM Jamshedpur chapter in association with CSIR-NML and Tata steel ltd.
22. *Member* of the organizing committee for a national conference on “*Thermo-mechanical processing of steels & 5th Gleeble user workshops in India*” held at CSIR-NML, Jamshedpur during Aug 2015.

16. Scientific and Societal Impact

1. *Development of CRM products in steels* to align with Make in India and Aatma Nirbhar Scheme of Govt. of India.
2. Organized professional training programme for the engineers, faculties, researchers on *Experimental Techniques in Iron and Steelmaking (ETIS)* once in two years as a part of skill development programme from 2017 to 2021.

17. Other merits

Details of participation in conference/workshop/seminar as an invitee:

1. **Guest of Honour** for the inaugural event of *International Conference on Recent Developments in Materials Science and Applications (ICRDMSA 2020)* on 24-25th Sep 2020 organized by Chennai Institute of Technology, Chennai.

2. **Panellist** for judging the oral presentation of “*eBTDD 2020 a national student seminar of metallurgy and materials science*” organized by IIM Jamshedpur chapter, CSIR-NML and Tata Steel Ltd Jamshedpur during 28th Aug 2020.

Details of invited talks/lectures in workshop/seminar:

1. Delivered an invited talk on “*Journey of Art to Science: Sword smithing to Steelmaking*” at National Institute of Technology Trichy on 19th Jan 2024.
2. Delivered an invited talk on “*Hot Model and Simulation of In-Mold Phenomena during Continuous Casting Process*” at an international conference, Fundamental and Industrial Research in Materials (iConFIRM 2023)” organized by IIT Jodhpur, on 11-14th Dec 2023.
3. Delivered an invited talk on “*Life cycle analysis of waste PCB recycling through secondary Cu smelting process*” in the 4th International Metallurgical Processes Workshop for Young Scholars (IMPROWYS 2023) on 14-15th Oct 2023 jointly organized by the Chinese society of Metals (CSM) and nonferrous metals society of China (NFSOC), hosted by Northeastern University and KTH Royal Institute of Technology in Hybrid mode.
4. Delivered an invited talk on “*Indigenous Development of Cannon Liner Steel: Journey from Lab to Industry*” in a national conference on “Advanced Materials and Manufacturing Technologies (AMMT 2023)” organized by CSIR NIIST, Trivandrum on 23-24th Feb 2023.
5. Delivered an invited talk on “*Hot Model and simulation of In-Mold Phenomena during Continuous Casting Process*” in an online webinar on “Continuous Casting: Process Modelling & Quality Aspects” organized by Tata Steel Ltd, Jamshedpur on 27th Jan 2023.
6. Delivered an invited talk on “*Physical and Thermodynamic Modelling of Liquid Steel Tapping Process*” in an International Conference on “Physical and Mathematical Modelling Iron and Steelmaking (PMMIS-2022)” in honour of Prof. Dipak Mazumdar, organized by IIT Kanpur, on 18-19 Dec 2023.
7. Delivered a talk on “*Chronicle of Iconic Metal: Iron (Art to Science)*” at Government College of Engineering, Salem, on 14th August 2022.
8. Delivered a talk on “*Efficient Manuscript Preparing*” in a training programme on “Essential soft skills for R&D” organized by Teaching and Learning Centre, CCE at IIT Hyderabad on 27th March 2022.
9. Delivered an invited talk on “*Secondary Steelmaking & Continuous Casting of Liquid Steels*” in the training programme on “Industrial Training on Metallurgy” for diploma and undergraduate students from 27th September to 30th October 2021 organized by CSIR-National Metallurgical Laboratory in On-Line (MS-Team Platform).
10. Delivered an invited talk (keynote speaker) on “*Chronicle of Iconic Metal: Iron (Art to Science)*” in the 7th Scientists Science Teachers Conclave (SSTC2021) on 30th July 2021 organized by CSIR-National Metallurgical Laboratory in On-Line (MS-Team Platform).
11. Delivered an invited talk on “*Influence of Slag Carryover on Evolution of Non-Metallic Inclusion in 3.2wt% Si Steel*” in the International Metallurgical Processes Workshop for Young Scholars (IMPROWYS2021) on 27-28th July 2021 jointly organized by North-eastern University China and University of Leicester UK in On-Line Platform.
12. Delivered an invited talk on “*Process Innovations for Product Developments in Steel Industries*” in a one-day workshop on 'Recent advancements in Materials processing and Characterization on 19th June 2021 organized by Chennai Institute of Technology in On-Line (MS-Team Platform).

13. Delivered an invited talk on “*Understanding Steelmaking practices through Physical Simulation techniques*” in the five-day online Faculty Development Programme (FDP) on “*Recent Advances in process Metallurgy*” during 13-17th July 2020 organized by O. P. Jindal University, Raigarh in association with IIM Raigarh Chapter and ASM International.
14. Delivered a lecture on “*Introduction to clean steel practices in BOF-LF-VD-CC steelmaking*” in the professional training program on “*Experimental techniques in iron and steelmaking ETIS 2019*” during 10-13 Dec 2019 at CSIR-NML Jamshedpur.
15. Delivered an invited talk on “*Steel plant: Manager and researcher perspective*” in the student workshop “*Role of Metallurgists in Industries*” for metallurgical engineering students on 5th April 2019 at Govt. College of Engineering Salem jointly organized by GCE Salem and IIM Salem Chapter.
16. Delivered an invited talk on “*Glimpses of clean steel research in CSIR-NML*” in the knowledge sharing workshop on “*Steel cleanliness and slag practices*” during 23rd Nov 2018 at Visakhapatnam steel plant organized by IIM Visakhapatnam chapter jointly with IIT Bombay and M/s. Imerys.
17. Delivered an invited talk on “*Evolution of steels: alloy design and development*” in the national symposium “*METMAT’18*” for metallurgical engineers during 15-16 Feb 2018 at Govt. College of Engineering Salem jointly organized by GCE Salem and IIM Salem Chapter.
18. Delivered a lecture on “*Quality improvements during liquid steel processing*” in the professional training program on “*Experimental techniques in iron and steelmaking ETIS 2017*” from 06-09 Dec 2017 at CSIR-NML Jamshedpur.
19. Delivered an invited lecture on “*Clean steel technologies*” in the national workshop “*Ore to Steel 2017 (O2S)*” for metallurgical engineers during 06-07 Sep 2017 at Govt. College of Engineering Salem jointly organized by GCE Salem and IIM Salem Chapter.
20. Delivered an invited lecture on “*Ladle metallurgy and continuous casting of steels*” in the 4-day short course on “*Production and processing of steels*” during 22-25 Dec 2016 at Govt. college of Engineering Salem.
21. Delivered an invited lecture on “*Challenges and opportunities for non-metallurgists in metallurgical industries*” in the workshop on “*Metallurgy for Non-metallurgist*” on 07 Oct 2016 at Mahindra Institute of Engineering and Technology (MIET) Mallasamuthram.
22. Delivered a lecture on “*Clean steel practices in steelmaking operations*” in the seminar on “*Quality Management Standards & Quality Management Tools (QMS & QTT)*” on 27 July 2016 at Giridih organized by MSME.
23. Delivered an invited lecture on “*Phase changes and reactions in blast furnace*” and “*Ladle refining and continuous casting of steels*” in the national workshop “*Ferrous extractive metallurgy 2015*” for metallurgical engineers during 09-10 Jan 2015 at Amal Jyoti College of Engineering (AJCE) Kanjirapally.
24. Delivered an invited lecture on “*Ladle metallurgy and casting*” in the national workshop “*Ore to Steel 2012 (O2S)*” for metallurgical engineers during 26-27 March 2012 at Govt. College of Engineering Salem jointly organized by GCE Salem and IIM Salem Chapter.

List of presentations in international (16) /national (05) conferences:

1. Ashok Kamaraj[#], S Tripathy, G K Mandal, and V C Srivatsa, “*Indigenous Development of Cannon Liner Steel: Journey from Lab to Industry*” in an international conference on “*Heat Treatment and Surface Engineering (HTSE 2023)*” organized by ASM Chennai chapter, on 28-30th Sep 2023.
2. Ashok Kamaraj[#], Premkumar M, G G Roy, G K Mandal, “*Influence of Slag Carryover on the Non-Metallic Inclusion and Magnetic Property in Electrical Steel*” in the 4th

international conference on Science and Technology of Ironmaking and Steelmaking [STIS-2022], Indian Institute of Technology, Bombay on 13-17th Dec 2022.

1. Ashok Kamaraj[#], Premkumar M, G G Roy, G K Mandal, “Influence of Slag Carryover on the Non-Metallic Inclusion and Magnetic Property in Electrical Steel” in Annual Technical Meeting NMD, Ramoji Flim city, Hyderabad on 13-16th Nov 2022.
2. Hot model and simulation of mold phenomena during continuous casting of liquid steel: Ashok Kamaraj[#], Nimai Halder, Premkumar M, and S. Misra: in an international conference on Recent Trends in Metallurgy, Materials science, and Manufacturing [IMME-2019], National Institute of Technology, Trichy during 27-28th Dec 2019. **(Best Paper award)**
3. Indigenous development of cannon liner steel for explosive testing: Ashok Kamaraj[#], S Tripathy, Murugesan A.P, G. K. Mandal, V. C. Srivastava, and R. R. Singh: National Metallurgist Day (NMD) – Annual Technical Meeting (ATM), organized by Indian Institute of Metals, Trivandrum Chapter, Trivandrum 13-16th Nov 2019.
4. Physical Simulation of Initial Solidification behaviour during Continuous Casting of Liquid Steel: Ashok Kamaraj[#], N. Halder, G. Chalavadi, S. Misra, P. P. Sahoo: National Metallurgist Day (NMD) – Annual Technical Meeting (ATM), organized by Indian Institute of Metals, Trivandrum Chapter, Trivandrum 13-16th Nov 2019.
5. Glimpses of research on clean steel practices at CSIR-NML: Ashok Kamaraj[#]: International seminar on Innovative Technologies for Production and Processing of Iron & Steel to remain Competitive & Sustainable, organized by Steel Tech, Kolkata on 19th Sep 2019.
6. High-Temperature Simulation of Continuous Casting Mould Phenomena: Ashok Kamaraj[#], Nimai Halder, Premkumar Murugaiyan, and Siddhartha Misra: National conference on Advances in Process Metallurgy organized by Indian Institute of Science Bangalore during 4-5th July 2019.
7. Control of Slag Carryover from BOF Vessel during Tapping: BOF Cold Model Studies: Ashok Kamaraj[#], G.K. Mandal, G G Roy: 10th international conference on clean Steel, organized by Hungarian Mining and metallurgical society, Budapest during 18-20 Sep 2018.
8. Ashok Kamaraj[#], Kotta Navya, G G Roy, G K Mandal, “Modelling and simulation studies on Liquid Steel Transfer Operations” in an international conference on Asia Steel [2018], organized by Tata Steel Ltd and Indian Institute of Metals, Bhubaneswar.
9. Ashok Kamaraj[#], Sushil Kumar, G G Roy, G K Mandal, “Quantitative and Qualitative Analysis of Non-metallic Inclusions in Low Alloy Steel” in an international conference on Asia Steel [2018], organized by Tata Steel Ltd and Indian Institute of Metals, Bhubaneswar.
10. Ashok Kamaraj[#], G G Roy, G K Mandal, “Modelling and simulation studies on BOF Tapping Process” in an international conference on Science and Technology of Ironmaking and Steelmaking [STIS-2017], Indian Institute of Technology, Kanpur.
11. Ashok Kamaraj[#], R Saravanakumar, M Rajaguru, “State of the Art Control Measures for Aluminium Fade and SEN Clogging during Steelmaking Operations” in an international conference on Advances in Metallurgy, Materials and Manufacturing [ICAMMM-2017], Government College of Engineering, Salem.
12. Ashok K[#], G. G. Roy, G. K. Mandal, “Estimation and analysis of excess oxygen input into ladle during liquid steel tapping” in an international conference on Emerging Trends in Materials and Manufacturing Engineering [IMME-2017], National Institute of Technology, Trichy. **(Best Paper award)**

13. Chidambaram S[#], Ashok K, ["Failure Investigation of industrial crank shaft made of cast iron"](#) in an international conference on Advances in Metallurgy, Materials and Manufacturing [ICAMMM-2017], Government College of Engineering, Salem.
14. Chidambaram S[#], Ashok K, ["Shear Fracture and Industrial Overload Failure of Mechanical Fuse Shear Pin"](#) in an international conference on Advances in Metallurgy, Materials and Manufacturing [ICAMMM-2017], Government College of Engineering, Salem.
15. Ashok K[#], G G Roy, G K Mandal, ["Physical Modelling Investigation on Vorticity Dynamics During Liquid Steel Tapping"](#) in an international conference on Advances in Metallurgy, Materials and Manufacturing [ICAMMM-2017], Government College of Engineering, Salem. **(Best Paper award)**
16. Ashok Kamaraj[#], Sarbeswar Thattoi ["An Alternative Secondary Steelmaking Reactor – A Preliminary Investigation"](#) in a national conference on Role of Innovations in Indian Mineral, Metals, Manufacturing, Processing & Allied Industries -2016, Indian Institute of Metals, Kolkata.
17. Ashok Kamaraj[#], ["Clean steel practices in steelmaking operations"](#) in a national conference on Quality Management Standards & Quality Management Tools (QMS & QTT-2016), MSME, Giridih Chapter.
18. Ashok K[#], Venkatesan J, P G Venkatakrishnan, ["Quantification of Slag Carry Over & Its Effect on Melting Practice of Medium Carbon Re-sulphur Steel Grades"](#) in an international Conference on Science and Technology of Iron making and Steelmaking [STIS-2013], CSIR-NML Jamshedpur.
19. Ashok K[#], Sankar p, Maruthupandian K, P G Venkatakrishnan ["Process Evaluation of AOD Stainless Steel Making in Salem Steel Plant, SAIL"](#) in an International Conference on Science and Technology of Iron making and Steelmaking [STIS-2013], CSIR-NML Jamshedpur.
20. Ashok K[#], P G Venkatakrishnan, ["Formation of Alumina Inclusion and their Control Measures"](#) in an International Conference on Recent Advancement in Material Processing [RAMP-2011], PSG College of Technology, Coimbatore.
21. Ashok K[#], Premkumar M, Ganesh Kumar K, P G Venkatakrishnan ["Inclusion Prediction and Evaluation of carbon Removal Efficiency in AOD Stainless Steel Making"](#) in an International Conference on Recent Advancement in Material Processing [RAMP-2011], PSG College of Technology, Coimbatore.

[#] Presenting author