

Dr. Sudip Kumar Samanta

Senior Principal Scientist ☎ +91-9434330540
Head, Foundry Division ☎ +91-9434627195
Mahatma Gandhi Avenue
CSIR-CMERI, Durgapur. Pin: 713209. sudip@cmeri.res.in
Ministry of Science & Technology, Govt. of India. samantasudip2013@gmail.com

Career Vision Contribute to design-development of technological solutions for industrial and societal needs of the nation in an interdisciplinary research ambience

R&D Exposure & Interests **Near Net Shape Manufacturing** (Melting and Casting; Power Injection Moulding; Solidification Modeling)

Skills & Strengths

- Analytical & Simulation Skills; Design of Experiments; Experimentation and Trouble-shooting in System Development and Implementation
- Very Good Team Spirit; Excellent Team Lead and Administrative skills

Academic Background (Reverse Chronological Order)

Doctor of Philosophy (Ph.D.), Indian Institute of Technology (IIT), Kharagpur
Specialization: Mechanical Engineering **Jan 2011**

- **Title of Doctoral Dissertation:** *Multiphase Flow Numerical Modelling for Simulation of the Injection Stage of Power Injection Moulding (PIM)*[‡]
- Department: Dept. of Metallurgical and Materials Engineering
- Thesis Advisors: (Retd.) Prof. Mahadev Malhar Godkhindi, IIT, Kharagpur and Prof. Himadri Chattopadhyay, Jadavpur University (Formerly with CSIR-CMERI Durgapur)

[‡]Research on theoretical aspects were undertaken at RWTH-Aachen, Germany

Master of Technology (M. Tech.), Regional Engineering College, Durgapur, Burdwan Univeristy (Currently NIT, Durgapur) **Jul 1995**
Specialization: Design & Production Engineering

Bachelor of Engineering (B. E.), Bangalore University **Jul 1993**
Specialization: Mechanical Engineering

Professional Experience (Reverse Chronological Order)

1. Senior Principal Scientist (Group – ‘A’ Scientific) **Since Jan 2015**
CSIR-Central Mechanical Engineering Research Institute
Foundry Division,
Mahatma Gandhi Avenue, Durgapur. Pin: 713209. West Bengal (State).
Profile: Principal Investigator of research projects

2. Principal Scientist (Group – ‘A’ Scientific) **Jan 2010 to Dec 2014**
CSIR-Central Mechanical Engineering Research Institute, Durgapur
Foundry Division
Mahatma Gandhi Avenue, Durgapur. Pin: 713209. West Bengal (State).
Profile: Principal Investigator / Co-Principal Investigator / Member of research projects

3. Scientist E-I (Group – ‘A’ Scientific) **Jan 2006 to Dec 2009**
CSIR-Central Mechanical Engineering Research Institute, Durgapur
Foundry Division,
Mahatma Gandhi Avenue, Durgapur. Pin: 713209. West Bengal (State).
Profile: Principal Investigator / Member of research projects

4. Scientist – ‘C’ (Group – ‘A’ Scientific) **Jan 2001 to Dec 2005**
CSIR-Central Mechanical Engineering Research Institute, Durgapur.
Foundry Division,
Mahatma Gandhi Avenue, Durgapur. Pin: 713209. West Bengal (State).
Profile: Principal Investigator / Member of research projects

5. Scientist – ‘B’ (Group – ‘A’ Scientific) Dec 1996 to Dec 2000
CSIR-Central Mechanical Engineering Research Institute, Durgapur.

Foundry Division,

Mahatma Gandhi Avenue, Durgapur. Pin: 713209. West Bengal (State).

Profile: Member of research projects

6. Junior Research Fellow (JRF) Aug 1995 to Dec 1996
CSIR-Central Mechanical Engineering Research Institute, Durgapur.

Foundry Division,

Mahatma Gandhi Avenue, Durgapur. Pin: 713209. West Bengal (State).

Profile: Member of research projects

**Award /
Achievement**

National and International Fellowships Received for Collaborative Research

- Fellow, Institute of Engineers, Institute of Engineers (India), IEI, Kolkata **2020**
- DAAD Fellowship from Foundry Institute, RWTH-Aachen, Germany **2004-2005**
- JICA Fellowship from TNIRI, Sendai, Japan **1998-1999**

**Administrative
Positions Held
(Past & Present)**

**Positions held at CSIR-CMERI Durgapur, Indian Institute of Foundrymen,
Academic Institutes, DST Board**

- **Chairman**, Technical & Purchase Committee (T&PC), CSIR-CMERI Durgapur **Since 2020**
- **Chairman**, Durgapur Activity Center, Indian Institute of Foundrymen **Since 2020**
- **Coordinator**, PG-Diploma Program on Advanced Manufacturing Technologies (PGDAMT), CSIR-CMERI Durgapur **Since 2017**
- **Member**, Collegium Committee for performance evaluation of Trainee Scientist, Scientists and Principal Scientists, CSIR-CMERI Durgapur **2011-2013, 2017-2018**
- **Member**, Technician recruitment committee, CSIR-CMERI Durgapur **2017-2018**
- **Chairman**, Fabrication Committee, CSIR-CMERI Durgapur **2016-2020**
- **Head**, Center for Advanced Manufacturing and Metrology (CAMM), CSIR-CMERI Durgapur **2016-2020**
- **Member**, Entrepreneurship Development Board of B. C. Roy Engineering College, Durgapur **2015-2016**
- **Coordinator**, Central Research Facility, CSIR-CMERI Durgapur **2011-2016**
- **Member**, Project Review Committee of Technology System Development Board of DST **2011-2013**

**Teaching
Experience**

**Associate Professor (Adjunct Faculty), Academy of Scientific & Innovative
Research (AcSIR), New Delhi Since 2011**

Subjects Taught

- Near Net Shape Manufacturing

Doctoral (2-Completed, 4-Ongoing) and Master’s (1-Completed) Supervision

- **Currently Supervising** PhD Dissertation Work of Four (04) Scholars from AcSIR, New Delhi
- **Co-Supervised** PhD Dissertation Work of a Scholar from Jadavpur University, with Prof. Himadri Chattopadhyay, Javapur University, Kolkata and Prof. Santanu Das, Kalyani University, Kalyani. **Scholar successfully graduated PhD program**
- **Co-Supervised** PhD Dissertation Work of a Scholar from IISc Bengaluru, with Prof. Pradip Dutta, IISc Bengaluru **Scholar successfully graduated PhD program**
- **Co-Supervised** Master’s Thesis Work of a Student from NIT, Durgapur (**Student Graduated**), with Prof. Ashim Das, NIT, Durgapur

**Technologies
Developed /
Implemented**

- **Developed** a “Portable Touchless Soap cum Water Dispensing System” with team. *Sponsor: CSIR-CMERI Durgapur (COVID-19 initiative)* **2020-2021**
- **Developed** a “Mob Control Vehicle (MCV)” with team MCV. *Sponsor: CSIR, New Delhi* **2019-2020**
- **Developed** a “Fuel Housing System for Aero Engine in Strategic aerospace application.” *Sponsor: GTRE, Bengaluru (DRDO)* **2019-2020**
- **Developed** an innovative product “IoT enabled SMART Foundry” with SMART Foundry 2020 consortium. *Sponsor: DST, New Delhi* **2016-2021**
- **Developed** a “Copper Nozzle through Metal Injection Moulding Process.” *Sponsor: DSIR, Govt of India* **2018-2019**
- **Developed** an “Automatic Bio-mass Briquetting Machine with team.” *Sponsor: CSIR-CMERI, Durgapur* **2018-2019**
- **Manufactured and Installed** Artifact Solar Trees.” *Sponsor: CSIR-CIMFR, Durgapur Steel Plant, WBPDC and CSIR-CMERI, Durgapur* **2017-2018**
- **Developed** a “Solar Power Generation System through Roof Top PV Panel.” *Sponsor: CSIR-CMERI, Durgapur* **2017-2018**
- **Developed** “Micro-Powder Injection Moulding (PIM) of WC-Co Alloy.” *Sponsor: CSIR, New Delhi* **2016-2017**
- **“Solar Power generation** through Solar Artifacts.” *Sponsor: CSIR-CMERI, Durgapur* **2016-2017**
- **Developed** a “Multi Metal Deposition System.” *Sponsor: DST&CSIR, New Delhi, Govt. of India* **2016-2017**
- **Developed** “Rheo Pressure Die Casting of ADC-12 Aluminium Alloy.” *Sponsor: Sona Koyo Steering Pvt. Ltd, Gurgaon* **2015-2016**
- **Developed** “Micro-Powder Injection Moulding (μ -PIM) of 316L Stainless Steel and Alumina Powder.” *Sponsor: CSIR, New Delhi* **2015-2016**
- **Developed** “Rheo Pressure Die Casting of A356 Aluminium Alloy.” *Sponsor: DST & CSIR, New Delhi* **2013-2014**
- **Developed** “Rheo Pressure Die Casting System.” *Sponsor: DST & CSIR, New Delhi, Govt. of India* **2012-2013**
- **Developed** “Novel Process Technology for Manufacturing of Porous Nickel Wick” through metal injection moulding. *Sponsor: ISRO Satellite Centre, Bengaluru & CSIR-CMERI, Durgapur* **2010-2011**
- **Developed** “Process Technology for Manufacturing of 35hp Sonalika Tractor Engine Crankshaft out of Austempered Ductile Iron.” *Sponsor: DST&CSIR, New Delhi, Govt. of India* **2007-2008**
- **Developed** “Process Technology for Manufacturing of Components out of 316L Stain-less Steel Powder” through Metal Injection Moulding. *Sponsor: CSIR, New Delhi, Govt. of India* **2006-2007**
- **Developed** Process technology for Manufacturing “Beater Head” and “Hammer” out of wear resistant carbide Austempered Ductile Iron. *Sponsor: CSIR, New Delhi, Govt. of India* **2006-2007**
- **Developed** “Process Technology for Manufacturing of 5 Hp Agricultural Pump Engine Crankshaft out of Austempered Ductile Iron”. *Sponsor: CSIR-CMERI, Durgapur, Govt. of India* **2001-2002**
- **Developed** “Binder System for Metal Injection Moulding” (with JICA fellowship). *Sponsor: TNIRI, Sendai, Japan* **1999-2000**

Technology Transfer Agreements

- “Portable Touch Free Soap-cum-Water Dispensing System”, a COVID-19 Initiative of CSIR-CMERI Durgapur. *Licensee: M/s Ghosh Enterprise, Kalna, Burdwan (May’20) and M/s Power Tech Mining Pvt. Ltd., Asansol (Jun’20)* **2020-2021**
- “Design of 11 kWp Solar Tree”. *Licensee: Sole Energy Pvt. Ltd. New Delhi* **2019**
- “Austempered (ADI) Technology for Manufacturing of Engineering Component”. *Licensee: M/s Mahalakhsmi Auto Industries, Jamshedpur* **2018-2019**
- “Solar Artifact”, *Licensee: M/s Lords Bluetech Co. Pvt. Ltd., Kolkata* **2015-2016**
- “Process Technology for Manufacturing of Components out of 316L Stainless Steel Powder through Metal Injection Moulding”. *Licensee: M/s Anticorrosive Equipments Pvt. Ltd. (ANTICO), Mumbai* **2009-2010**

Prototype / Process / Pilot plant / Demonstrable Units Developed

Development and Successful Delivery of Prototypes and Processes

- **Developed a PIM based process** for manufacturing “Copper Nozzles” for Gas Cutting and Welding applications for Bargachia Cluster, West Bengal (State). Process of implementation is underway. **2019-2022**
- **Developed a need based Prototype** Special Purpose Machine for manufacturing of “Surgical Tools”. System is ready for deployment at Surgical Cluster, Baruipur, West Bengal (State). **2019-2021**
- **Developed an IoT enabled SMART Foundry** with SMART Foundry 2020 consortium. System is demonstrated in National Conference cum Industry Meet on Foundry 4.0 – Opportunities and Challenges. **2016-2021**
- **Developed and delivered** Five (05) Prototypes of Fuel Housing System for supplying metered quantity of fuel in gas turbine engine to Gas Turbine Research Establishment (GTRE-DRDO), Bangalore in 2020. **2018-2020**
- **Developed** a Mob Control Vehicle (MCV) for riot control scenario with team MCV. System is ready for technology commercialization. **2017-2020**
- **Developed a Pilot Plant** for “Rheo-Pressure Die-Casting”. The Pilot plant developed in 2014 and is operational ever since. **2014-2016**
- **Developed and delivered** Five (05) Prototypes of Nickel Wicks of Loop Heat Pipes used for Thermal Management in Satellites to ISRO Satellite Center (ISAC), Bangalore in 2011. **2008-2011**

Notable Contribution to Facility Creation

Contributions in Facility Creation as Administrator in Various Capacities

- **Modernized the manufacturing facilities** of Center for Advanced Manufacturing and Metrology (CAMM), CSIR-CMERI Durgapur: CNC Bay (with CNC Machines), Robotic Welding, Plasma Profile Cutting System, Hydraulic Press, Centralized Compressor, Overhead Crane. CAMM is currently serving the needs of researchers at CSIR-CMERI, academia and industry **2017-2020**
- **Established Powder Injection Moulding (PIM) facility** for manufacturing of miniature, small and complex components out of metals and ceramics at CSIR-CMERI Durgapur. PIM facility is currently serving the needs of researchers at CSIR-CMERI, academia and industry **2002-2007, 2012-2017**
- **Established a Central Research Facility (CRF)** at CSIR-CMERI Durgapur with state-of-the-art infrastructure (FESEM with EDS, High Cycle Fatigue Testing System, Gas Chromatography, Photo Image Velocimetry). CRF is currently serving the needs of researchers at CSIR-CMERI, academia and industry **2011-2020**
- **Established Semi-Solid Casting (Rheo Pressure Die Casting)** at Foundry, CSIR-CMERI Durgapur. The facility is currently used for developing light-weight, high-strength, Aluminium alloy components of automobile industry **2010-2014**

Publications, IPR and Industry News

Peer Reviewed Journal Publications

1. Islam, ST., **Samanta, SK.**, and Das, SK., Chattopadhyay. H., “A numerical model to predict the powder binder separation during micro-powder injection molding”, *Journal of American Ceramic Society*, pp. 1-13, Feb 2022. DOI: <https://doi.org/10.1111/jace.18401>.
2. Arjita Das, Shikha Ambastha, Nivedita Priyadarshni, **Sudip Samanta**, Nagahanumaiah, Fabrication of hydrophobic surfaces on Titanium using Micro-EDM exhibiting antibacterial properties, Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering, 09544054211060981, Dec, 2021
3. Pant, P., Chatterjee, D., **Samanta, S. K.**, and Lohar, A. K., “Experimental and Numerical Analysis of the Powder Flow in a Multi-Channel Coaxial Nozzle of a Direct Metal Deposition System”, *ASME Journal of Manufacturing Science and Engineering*, pp. 01710031-9, Vol. 143, No. 7, Feb 2021.
4. Arjita Das, Shikha Ambastha, Sourav Haldar, **Sudip Samanta**, Nagahanumaiah, “A novel methodology for spark gap monitoring in Micro-EDM using optical fiber Bragg grating”, *IEEE Transactions on Instrumentation and Measurement*, pp. 4387-4394, Vol. 69, No. 7, Jul 2020 (First published in September 2019).
5. Piyush Panth, Dipankar Chatterjee, **Sudip Kumar Samanta**, Titas Nandi and Aditya Kumar Lohar, “A bottom-up approach to experimentally investigate the deposition of austenitic stainless steel in laser direct metal deposition system”, *Journal of the Brazilian Society of Mechanical Sciences and Engineering*, 41, Article No. 88, Jan 2020.
6. Sk Tanbir Islam, **Sudip Kumar Samanta**, A K Lohar, A Bandhopadhyay, “Rheological study of alumina feedstock for a micro-powder injection moulding application”, *Materials Research Express*, Article. 095204, pp. 1-9, Vol. 6, No. 7, July 2019.
7. Arjita Das, Shikha Ambastha, Sourav Haldar, **Sudip Samanta**, Nagahanumaiah, “Fibre bragg grating sensors for measuring spark gap in Micro-EDM in real-time”, *Manufacturing Technology Today*, Vol. 18, No. 7, pp. 3-8, July 2019. Publisher: CMTI, Bangalore. ISSN: 0972-7396.
8. Piyush Panth, Dipankar Chatterjee, Titas Nandi, **Sudip Kumar Samanta** and Aditya Kumar Lohar, “Statistical modelling and optimization of clad characteristics in laser metal deposition of austenitic stainless steel”, *Journal of the Brazilian Society of Mechanical Sciences and Engineering*, 41, Article No. 283, Jun 2019.
9. Veeresh Nayak Chinnathaypg, Ramesh Motagondanahalli Rangarasaiah, Vijay Desai, **Sudip Kumar Samanta**, “Evaluation of Wear Behaviour of Metal Injection Moulded Nickel Based Metal Matrix Composite”, *Silicon*, pp. 175–185, Vol. 11, Feb 2019.
10. Veeresh Nayak Chinnathaypg, Ramesh Motagondanahalli Rangarasaiah, Vijay Desai, **Sudip Kumar Samanta**, “Sintering metal injection molding parts of tungsten-based steel using microwave and conventional heating methods”, *Proceedings of the Institution of Mechanical Engineers Part B Journal of Engineering Manufacture*, pp. 2138-2146, Vol. 233, No. 11, Dec 2018.
11. Veeresh Nayak Chinnathaypg, Ramesh Motagondanahalli Rangarasaiah, Vijay Desai, **Sudip Kumar Samanta**, “Evaluation of Mechanical Properties for Nickel Based Steel Produced by Metal Injection Moulding and Sintered Through Conventional and Microwave Method”, *Chemical Engineering Transactions*, pp. 799-804, Vol. 66, Jul 2018.

12. Veeresh Nayak C, M R Ramesh, Vijay Desai, **Sudip Kumar Samanta**, “Fabrication of stainless steel based composite by metal injection moulding”, *Materials Today: Proceedings*, pp. 6805-6814, Vol. 5, Part. 2, No. 2, 2018.
13. Sujeet Kumar Gautam, Nilrudra Mandal, Himadri Roy, Aditya Kumar Lohar, **Sudip Kumar Samanta**, Goutam Sutradhar, “Optimization of processing parameters of cooling slope process for semi-solid casting of ADC 12 Al alloy”, *Journal of the Brazilian Society of Mechanical Sciences and Engineering*, Vol. 40, Article. 291, May 2018.
14. Sujeet Kumar Gautam, Himadri Roy, Aditya Kumar Lohar, **Sudip Kumar Samanta**, Goutam Sutradhar, “Effect of processing routes on structure-property co relationship of ADC 12 Al alloy”, *Materials Research Express*, Vol. 6, No. 2, Feb, 2018.
15. Prosenjit Das, **Sudip K Samanta**, Biswanath Mondal, Pradip Dutta, “Multiphase Model of Semisolid Slurry Generation and Isothermal Holding During Cooling Slope Rheo processing of A356 Al Alloy”, *Metallurgical and Materials Transactions B*, pp.1925-1944, Vol. 49, No. 4, Aug 2018.
16. Sk Tanbir Islam, **Sudip Kumar Samanta**, Nagahanumaniah, Himadri Roy, Aditya Kumar Lohar, Santanu Das and Asish Bandyopadhyay, “Rheological Behavior of 316L Stainless Steel Feedstock for μ -MIM”, *Materials Today Proceedings*, pp. 8152-8158, Vol. 5, No. 2, Part. 2, Apr 2018.
17. Himadri Chattopadhyay, **Sudip K. Samanta**, Gautam Biswas and Bharat B. Sharma, “Direct numerical simulation of evaporation in a biporous media”, *Journal of Mechanical Science and Technology*, pp. 2635-2641, Vol. 31, Jul 2017.
18. Prosenjit Das, **Sudip K. Samanta**, Supriya Bera, Pradip Dutta, “Microstructure evolution and rheological behaviour of cooling slope processed Al-Si-Cu-Fe alloy slurry”, *Metallurgical and Materials Transactions A*, pp. 2243-2256, Vol. 47, No. 5, Feb 2016.
19. S. Thadela, B. Mandal, Prosenjit Das, H. Roy, A.K.Lohar and **S. K. Samanta**, “Rheological behavior of semi-solid TiB₂ reinforced Al composites”, *Transactions of Nonferrous Materials Society of China*, pp. 2827-2832, Vol. 25, No. 9, Sep 2015.
20. Prosenjit Das, Bijay Kumar Show, Akash Rathore, **Sudip K. Samanta**, “Wear behaviour of cooling slope rheocast A356 alloy”, *Tribology Transactions*, pp. 1054-1066, Vol. 58, No. 6, Sep 2015.
21. S K Mishra, H Roy, A K Lohar, **S K Samanta**, S Tiwari and K Dutta, “A comparative assessment of crystallite size and lattice strain in differently cast A356 aluminium alloy”, *IOP Conference Series: Materials Science and Engineering*, Vol. 75, Feb 2015.
22. Santosh Kumar, Prosenjit Das, Sandeep K. Tiwari, Manas K. Mondal, Supriya Bera, Himadri Roy and **Sudip K. Samanta**, “Study of Microstructure Evolution during Semi-Solid Processing of an in-Situ Al Alloy Composite”, *Materials and Manufacturing Processes*, pp. 356-366, Vol. 30, No. 4, Jan 2015.
23. Prosenjit Das, **Sudip K. Samanta**, Pradip Dutta, “Rheological behaviour of Al-7Si-0.3Mg alloy at Mushy state”, *Metallurgical and Materials Transactions B*, pp. 1302-1313, Vol. 46, Jan 2015.

24. Prosenjit Das, **S. K. Samanta**, R. Das, P. Dutta, "Optimization of degree of sphericity of primary phase during Cooling Slope casting of A356 Al alloy: Taguchi method and Regression analysis", *Measurement*, pp. 605-615, Vol. 55, Sep 2014.
25. Prosenjit Das, **S. K. Samanta**, P. Kumar, P. Dutta, "Phase field simulation of equi-axed microstructure formation during semi-solid processing of A380 Al alloy", *ISIJ International*, pp. 1601-1610, Vol. 54, No. 7, 2014.
26. **S. K. Samanta**, P. Das and A. K. Lohar, "Study of physical characteristics of nickel wicks developed by metal injection moulding", *Powder Metallurgy*, pp. 221-230, Vol. 56, No. 3, Dec 2013.
27. Prosenjit Das, **S. K. Samanta**, Himadri Chattopadhyay, Pradip Dutta, "Eulerian two-phase flow simulation and experimental validation of semisolid slurry generation process using cooling slope", *Material Science & Technology*, pp. 83-92, Vol. 29, No. 1, Nov 2013.
28. Prosenjit Das, M. Kumar, **S. K. Samanta**, P. Dutta, D. Ghosh, Santosh Kumar, "Semi-solid processing of A380 Al alloy using Cooling Slope", *Materials and Manufacturing Processes*, pp. 422-428, Vol.29, No. 3, Sep 2013.
29. Prosenjit Das, Samik Dutta, **Sudip K. Samanta**, "Evaluation of primary phase morphology of cooling slope cast Al-Si-Mg alloy samples using image texture analysis", *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, pp. 1474-1483, Vol. 227, No. 10, Aug 2013.
30. **S. K. Samanta**, P. Das, A. K. Lohar, H. Roy and A. K. Chowdhury, "A novel approach of manufacturing nickel wicks for loop heat pipes using metal injection moulding (MIM)", *Sadhana Indian Academy of Sciences*, pp. 281-296, Vol. 38, No. 2, 2013.
31. Prosenjit Das, **S. K. Samanta**, Tapan Ray, B. R. K. Venkatapathi, "Mechanical properties and Tensile fracture mechanism of Rheocast A356 Al alloy using Cooling Slope", *Advanced Materials Research*, pp. 354-358, Vol. 585, Nov 2012.
32. Prosenjit Das, **S. K. Samanta**, Himadri Chattopadhyay, Pradip Dutta, "Effect of Pouring Temperature on Cooling Slope casting of Semi-solid Al-Si-Mg alloy", *Acta Metallurgica Sinica (English Letters)*, pp. 329-339, Vol. 25, No. 5, Oct 2012.
33. Prosenjit Das, **S. K. Samanta**, Himadri Chattopadhyay, Pradip Dutta, "Studies on rheocasting using cooling slope", *Solid State Phenomena*, pp. 341-346, pp. 341-346, Vol. 192-193, Oct 2012.
34. Prosenjit Das, **S. K. Samanta**, Himadri Chattopadhyay, Pradip Dutta, Nilkanta Barman, "Rheological characterization of Semi-solid A356 aluminium alloy", *Solid State Phenomena*, pp. 329-334, Vol. 192-193, Oct 2012.
35. Prosenjit Das, **S. K. Samanta**, Himadri Chattopadhyay, Pradip Dutta, B. R. K. Venkatapathi, "Microstructural evolution of A356 Al alloy during flow along a Cooling Slope", *Transactions of Indian Institute of Metals*, pp. 669-672, Vol. 65, Oct 2012.
36. Prosenjit Das, **Sudip K. Samanta**, Aditya K. Lohar, Himadri Chattopadhyay, Pradip Dutta, "Effect of Pouring Temperature on Cooling Channel Semi Solid Slurry Generation process", *International Journal of Materials and Mechanics Engineering*, pp. 11-15, Vol. 1, No. 1, Jan 2012.

37. **S. K. Samanta**, B. B. Sharma, Prosenjit Das, A. K. Lohar, “Development of tubular Ni wick used in LHP for space applications”, *Frontiers in Heat pipe (FHP)*, 2, 2011.
38. **S. K. Samanta**, H. Chattopadhyay, M. M. Godkhindi, “Therm-Physical characterization of binder and feedstock for single and multiphase flow of PIM 316L feedstock”, *Journal of Materials Processing Technology*, pp. 2114-2122, Vol. 2011, No. 12, Jul 2011.
39. **S. K. Samanta**, H. Chattopadhyay, M.M. Godkhindi, “Modelling the powder-binder separation in injection stage of PIM”, *Progress in Computational Fluid Dynamics*, pp. 292-304, Vol. 11, No.5, 2011.
40. **Sudip K. Samanta**, H. Roy, D. P. Chattopadhyay, S. Kumar, S. S. Roy, A. K. Chowdhury and S. Majumder, “Scrap Polymer as a Partial Replacement of Graphite for Cast Iron Production”, *Indian Foundry Journal*, pp. 23-28, Vol. 57, No. 1, 2011.
41. **S. K. Samanta**, H. Chattopadhyay, B Pustal, Ralf Berger, M. M. Godkhindi, A. B. Polaczek, “A Numerical study of solidification in powder injection moulding process”, *International Journal of Heat and Mass Transfer*, pp. 672-682, Vol. 51, No. 3-4, Feb 2008.

**International /
National
Conference
Publications**

1. Ravi Kant Jain, Puja Banerjee, Debojyoti Baksi and **Sudip Kumar Samanta**, “IoT Based Interface Device for Automatic Molding Machine towards SMART FOUNDRY-2020”, *10th International Conference on Computing, Communication and Networking Technologies (IEEE-ICCCNT)*, IIT, Kanpur, India, 6-8 July 2019.
2. Sujeet Kumar Gautam, Himadri Roy, Aditya Kumar Lohar, **Sudip Kumar Samanta**, Goutam Sutradhar, “Optimization of degree of sphericity of ADC 12 Al alloy using taguchi method”, *International Conference on Sustainable Manufacturing, Automation and Robotics Technologies (IC-SMART 2017)*, CSIR-CMERI, Durgapur, INDIA, 15-16, December 2017.
3. Sk Tanbir Islama, **Sudip Kumar Samanta**, Aditya Kumar Lohar, Nagahanumiah and Asish Bandyopadhyay, “A Comparative Rheological Study of Alumina Feedstock for micro-PIM”, *International Conference on Sustainable Manufacturing, Automation and Robotics Technologies, (IC-SMART 2017)*, CSIR-CMERI, Durgapur, INDIA, 15-16 December 2017.
4. P. Pant, D. Chatterjee, **S. K. Samanta**, T. Nandi, A. K. Lohar, “Numerical Simulation of Powder Flow and Laser-Substrate Interaction in a Multi-Channel Coaxial Nozzle DMD Process”, *65th Indian Foundry Congress*, Eco Park, Kolkata, 3-5 February 2017.
5. Himadri Chattopadhyay, **Sudip K. Samanta**, Gautam Biswas and Bharat B. Sharma, “Direct Numerical Simulation of Evaporation in a Biporous Media”, *Joint 18th International Heat Pipe Conference and 12th International Heat Pipe Symposium*, Jeju-si, South Korea, 12-16 Jun 2016.
6. P. Pant, D. Chatterjee, **S. K. Samanta**, T. Nandi, A. K. Lohar, “Modelling of Powder Stream Dynamics Using Lagrangian-Eulerian Approach in Direct Metal Deposition Process”, *Proceedings of 6th International and 43rd National Conference on Fluid Mechanics and Fluid Power*, Allahabad, Uttar Pradesh, 15-17 December 2016.

7. **S. K. Samanta**, P. Das, A.K. Lohar, S. Kumar, D. P. Chattopadhyay, A. K. Chowdhury, "Manufacturing of nickel wick for loop heat pipe through MIM route", *International conference on powder metallurgy & particulate material (PowderMet 2011)*, Sanfrancisco, USA, 18-21 May 2011.
8. **S. K. Samanta**, P. Das, A.K. Lohar, "Development of tubular Ni wick used in LHP for Space applications", 10th International Heat Pipe Symposium, New Taipei City, Taiwan, 6-9 Nov 2011.
9. **S. K. Samanta**, P. Das, A.K. Lohar and P. Dutta, "Formation of semi solid slurry using cooling slope for rheo-pressure die casting", *21st National and 10th ISHMT-ASME Heat and Mass Transfer Conference*, Indian Institute of Technology Madras, 27-30 December 2011.
10. **S. K. Samanta**, P. Das, A. K. Lohar, A. K. Chowdhury, "Metal Injection Moulding-A new P/M route for development of nickel wicks used in LHPs", *The PM-11 International conference and exhibition*, Pune, India, 3-5th February 2011.
11. **S. K. Samanta**, H. Chattopadhyay, M. M. Godkhindi, B Pustal, Ralf Berger, A. B. Polaczek, "Simulation of mould filling in Powder Injection Moulding", *19th National & 8th ISHMT-ASME Heat and Mass Transfer Conference*, JNTU, Hyderabad, January 2008.
12. **S. K. Samanta**, H. Chattopadhyay, M.M. Godkhindi, "Modelling of Phase segregation phenomenon in metal injection moulding", *International conference on Investment Casting*, CMERI, Durgapur, January, 2010.
13. H. Chattopadhyay and **S. K. Samanta**, "Transport process in melt spinning of metallic glass ribbon", *Proc. 33rd National Conference on Fluid Mechanics and Fluid Power*, Mumbai, December 2006.
14. **S. K. Samanta**, H. Chattopadhyay, "Metal injection moulding of 304L stainless steel powder", *National Symposium of Investment Casting*, Howrah, January, 2006.
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