

BRIEF BIODATA

Dr. Prosenjit Das,
Senior Scientist,
Design and Manufacturing Research Centre,
CSIR-CMERI, &
Assistant Professor,
AcSIR (CMERI campus),
M.G. Avenue,
Durgapur- 713209,
E-mail Id: prosenjit@cmeri.res.in / prosenjit.sct.cmeri@gmail.com



EDUCATION

Ph.D., Mechanical Engineering, Indian Institute of Science, Bangalore, India, 2013-16
Thesis: Rheoprocessing of Aluminium alloys using cooling slope technique

M.Tech., Industrial Metallurgy, Indian Institute of Technology Roorkee, Roorkee, India, 2008-10
Thesis: Mechanical properties and Fracture studies on Ultra Fine Grained 7075 Al alloy under different loads (Experimental and Simulation studies)

B. Tech., Mechanical Engineering, WBUT (Institute: Kalyani Govt. Engineering College), Kalyani, India, 2004-08
Thesis: A Study on Machinability of P/M Iron and MMC (Al + 20% SiC)

FIELD OF SPECIALISATION

Broad Area: Materials processing & Manufacturing

Research Area:

- ❖ Light Metals/Composites and Manufacturing processes
- ❖ Casting & Solidification
- ❖ Injection moulding of ceramics, metal and polymers
- ❖ Powder Metallurgy
- ❖ Bio-inspired manufacturing
- ❖ Manufacturing process modelling
- ❖ Mechanics of light alloys (Numerics & Experimentation)

WORKING EXPERIENCE

Senior Scientist, CSIR-Central Mechanical Engineering Research Institute, Durgapur India, Aug'2014-till date

Assistant Professor, Academy of Scientific and Innovative Research (CMERI campus), India, Jan 2019-till date

Scientist, CSIR-Central Mechanical Engineering Research Institute, Durgapur India, Aug'2010-Aug'2014

NOTABLE AWARDS/HONOURS/RECOGNITIONS

I. "ISCA Young Scientist Award 2019" under "Engineering Sciences" category.

II. 'Speaker of the Day' award in the **Therma Comp 2018**, held at **Indian Institute of Science, Bangalore**, from 9-11 July 2018.

III. Research project recommended under the "Scheme for Young Scientists and Technologists" of SEED division, DST for Social relevance projects, 13th August'2018.

IV. "CSIR Young Scientist Award 2017" in the "Engineering Sciences" category.

Award citation: "Outstanding contribution towards understanding and developing novel automotive products through semisolid processing for industrial use"

V. *Acta Metallurgica Sinica (English Letters)* "Excellent article Award 2016" for the article titled "Effect of pouring temperature on cooling slope casting of semi-solid Al-Si-Mg alloy", *Acta Metallurgica Sinica*, vol. 25, pp. 329-339, 2012 (authored by) **Prosenjit Das**, Sudip K. Samanta, Himadri Chattopadhyay, and Pradip Dutta.

VI. Awarded research grant under the "Scheme for Young Scientists and Technologists" of SEED division, DST for Social relevance projects, 20th July'2015.

VII. "MRSI Young Scientist 2014" award by Materials Research Society of India.

VIII. "Certificate of Excellence" by Indian Institute of Metals (Durgapur Chapter), 30th October, 2012.

PATENTS

1. "Gravity cast in-situ Al-15Mg₂Si-4.5Si composite and a process thereof" (IN 201811015624, 25.04. 2018)
2. "Tooth colored Dental Brackets and a process thereof" (IN 201811029904, 09.08. 2018)
3. "Eco-friendly alumina feedstock and process technology to develop micro ceramic injection moulded parts thereof" (IN 201911003330, 28.01. 2019)
4. "Rheo Gravity die cast in-situ Al-15Mg₂Si-4.5Si-0.01Sr-0.015B composite and an Automobile Brake disc cast thereof" (IN 201911012127, 28.03. 2019)

PUBLICATION DETAILS

Book/Monograph: 03, Book Chapter: 01, SCI Journals: 32, International Conferences: 25, National Conferences: 21, Technical reports of research projects: 12, Citations: 359, Hindex: 11, I10-index: 14 (Further details may be seen from the links given below)

Weblink: <https://scholar.google.co.in/citations?user=02gn9uQAAAAJ&hl=en>

Weblink: https://www.researchgate.net/profile/Prosenjit_Das2

SELECTED JOURNAL PUBLICATIONS

Sl. No.	Author (s)	Title	Name of the Journal	Volume	Page	Year	I.F ***	Citation ###
1.	Prosenjit Das , Bikash Bhuniya, Sudip K. Samanta, Pradip Dutta	Studies on Die Filling of A356 Al alloy and Development of an Automobile Component using Rheo Pressure Die Casting System	Journal of Materials Processing Technology	271	293-311	2019	3.7
2.	Prosenjit Das , S. K. Samanta, B. Mondal and P. Dutta	Multiphase model of semi solid slurry generation and isothermal holding during cooling slope rheoprocessing of A356 Al alloy	Metallurgical and Materials Transactions B	49	1925 - 1944	2018	1.7	1
3.	Prosenjit Das , P.	Phase field modelling of microstructure evolution and	Computational Materials	125	8-19	2016	2.3	6

	Dutta	ripening driven grain growth during Cooling Slope processing of A356 Al alloy	Science					
4.	Prosenjit Das, S. K. Samanta, S. Bera, P. Dutta	Microstructure evolution and rheological behaviour of cooling slope processed Al-Si-Cu-Fe alloy slurry	Metallurgical and Materials Transactions A	47	2243 - 2256	2016	1.9	9
5.	Prosenjit Das, Sk. T. Islam, S. Das	Micromechanics based modelling of Deformation behaviour of grain refined Rheocast Al-7Si-0.3Mg alloy	Materials Science and Technology	32	898-914	2016	1.2	1
6.	Prosenjit Das, S. K. Samanta, P. Dutta	Rheological behaviour of Al-7Si-0.3Mg alloy at Mushy state	Metallurgical and Materials Transactions B	46	1302 - 1313	2015	1.7	12
7.	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	55	605-615	2014	2.4	13
8.	Prosenjit Das, S. K. Samanta, P. Kumar, P. Dutta	Phase field simulation of equiaxed microstructure formation during semi-solid processing of A380 Al alloy	ISIJ International	54 (7)	1601 - 1610	2014	1.4	5
9.	Prosenjit Das, R. Jayaganthan, T. Chowdhury, I. V. Singh	Fatigue behaviour and Crack Growth rate of Cryorolled Al 7075 alloy	Material science & Engineering A	528	7124 - 7132	2011	3.1	45
10.	Prosenjit Das, R. Jayaganthan, I. V. Singh	Tensile and Impact-toughness behaviour of Cryorolled Al 7075 alloy	Materials & Design	32	1298 - 1305	2011	4.5	38

KEYNOTE ADDRESS/INVITED LECTURES/PRESENTATIONS

01 (KGEC, Kalyani)+ 01 (GMIT, Baruipur)+ 01 (SINP, Kolkata) + 01 (at LPU, Jalandhar) + 01 (at NIIST, Trivandrum) + 01 (at INSA, New Delhi)+01 (Mysore Univ.) + 01(CSIR HQ.) + 01(IEI, Dgp) + 03 (CMERI) + 02(CVRCE, Bhubaneswar) + 01(Manipur Univ.)

THESIS SUPERVISION

Summer Interns: 04, B.Tech: 04, M.Tech: 16, JRF/SRF/PA: 08

APPROVED/ONGOING/COMPLETED PROJECTS

Sl. No	Title	Role	Sponsoring Agency	Period	Amount (Rs in Lakhs)	Achievements/proposed deliverables
1.	Design and Development of Tooth colored Ceramic Dental Braces set by Micro-Ceramic Injection Moulding (Status: approved for funding)	Principal investigator	DST (SEED division) (research award under "SYST 2018")	-----	Yet to receive project grant	Development of complete Tooth coloured orthodontic brace set and evaluation of bio compatibility.
2.	Design and Development of Nano composite based Heat Sink for Thermal management of high power LEDs (Status: ongoing)	Principal investigator	DST- Nanomission	January'19- January'22	68.29	Development of Stirr/compo cast heat sink out of novel Al-Si-MWCNT alloy composite, with expected thermal conductivity of 300-500 W/mK. Design to be provided by Philips India.
3.	Development of Net shape Alumina Dental Brackets by Ceramic Injection Moulding (Status: completed)	Principal investigator	DST (SEED division) (research award under "SYST 2015")	August'15- August'18	30.84	Tooth colored dental brackets have been developed successfully for the first time in the country at a comparable cost with the metallic brackets.
4.	Rheo-pressure die casting of Al-Mg ₂ Si-Si composite (Status: completed)	Principal investigator	DST (SERB division)	July'14- July'18	34.60	Al-Mg ₂ Si-Si composite and prototype Brake disc developed successfully with improved properties.
5.	Facility for Clean Coal Research and Development (Status: completed)	Principal investigator	CSIR-CMERI	Nov' 17- Sept'18	140.00	Know how explored to achieve enhanced thermal efficiency of coal fired power plants.
6.	Facility for Rheo pressure die casting. (Status: completed)	Co-principal investigator	DST (TSD Board) & CSIR	Nov.'10- Nov.'14	405.924	Rheo die casting process technology and development of automobile Steering knuckle as a demo component.
7.	Phase field modelling of Microstructure evolution of Rheo Cast Billets. (Status: completed)	Principal investigator	CSIR-CMERI (Institute grant)	March'11- March'13	46	Simulated microstructure evolution during semi solid processing and solidification of Al alloys.
8.	Rheo Pressure Die Casting of Al-Mg Alloy Composite. (Status: completed)	Co-principal investigator	CSIR (under 12 th Five year plan)	March.'12- March.'17	101	Semi solid processed Al-TiB ₂ and Al-Mg composite has been developed successfully.
9.	Development of porous Nickel wick. (Status: completed)	Co-principal investigator	ISRO	August' 2010-Sept.' 2012	7.0	Ni wick has been developed and successfully tested in the ISRO's Loop heat pipe.
10.	Investigation of porous wick out of nickel base alloy through MIM route. (Status: completed)	Co-principal investigator	CSIR-CMERI (Institute grant)	August' 2010-Sept.' 2012	23.60	Around 50% porosity has been achieved in the developed Ni wicks.

I hereby declare that all the information provided by me in this document is factual and correct to the best of my knowledge and belief.

Prosenjit Das

Date: 28.06.19

PROSENJIT DAS