DR. CHINMOY CHATTOPADHYAY

Present Address

Department of Materials and
Metallurgical Engineering
National Institute of Foundry and
Forge Technology
Ranchi – 834003.
India

Permanent Address

Vill.+P.O.+P.S.- Barjora
Behind Central Bank
District - Bankura
West Bengal-722202
India

Personal Information

Date of Birth – 14th Day of August, 1982. Sex – Male.

Contact Address: Email : techchinmoy@gmail.com or chinmoy_india@yahoo.in

Ph. No - +91-8900053731.

Academic Qualifications (in reverse chronological order)

Doctor of Philosophy (PhD) – Degree Awarded on **24th March, 2014**.

Thesis title – "**Phase transformations in materials with reference to amorphous structure**."
From - The Department of Materials Science and Enginering
Indian Institute of Technology, Kanpur -208016, India.

Course Work CGPA – **8.5** out of 10.

Master of Technology (M. Tech.) – Degree Awarded on **25th July, 2008**.

Thesis title – "**Wear behavior of thermo-mechanically processed medium carbon micro-alloyed steel**."
From - The Department of Materials Science and Engineering
Indian Institute of Technology, Kanpur -208016, India.

Course work CGPA – **7.36** out of 10.

Bachelor of Engineering (B.E.) – Completed on **25th May, 2005**.

Project Title: "**Studies on silica-nickel and silica-alumina-nickel nano composites produced by sol-gel technique**".
From- Department of Metallurgical Enginering
National Institute of Technology Durgapur. Durgapur- 713209, India.

CGPA – (counted on absolute marks obtained) **66.7** out of 100.

Higher Secondary (10+2) – **July, 2000**.

From – West Bengal Council of Higher Secondary Education (WBCHSE)
Government of West Bengal, India.

School – **Barjora High School (Higher Secondary), Barjora – 722202; India.**

Marks – **809** out of 1000. (80.9%).

Secondary (10th) – **July, 1998**.

West Bengal Board of Secondary Education (WBBSE)
Government of West Bengal, India.

School – **Barjora High School (Higher Secondary), Barjora – 722202; India.**

Marks – **696** out of 800. (87%).

Professional Experiences (In reverse Chronological Order)

Teaching Experience

UG

6	2018: Jan-May	**MT 403**	Phase Equillibria in Materials Systems
5	2018: Jan-May	**MT 406**	Mechanical Behaviour of Materials
4	2017: Jan-May	**MT 201**	Introduction to Materials Science and Engineering
3	2017: Jan-May	**MT 406**	Mechanical Behaviour of Materials
2	2016: Jan-May	**MT 305**	Thermodynamics and Kinetics of Materials
1	2016: Jan-May	**MT 406**	Mechanical Behaviour of Materials

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4	2017: Jul-Dec	**MM 101**	Thermodynamics and Kinetics of Materials
3	2017: Jul-Dec	**MM 102**	Advanced Physical Metallurgy
2	2016: Jul–Dec	**MM 101**	Thermodynamics and Kinetics of Materials
1	2016: Jul-Dec	**MM 205**	High Temperature Materials

Post-PhD

1. **Assistant Professor**, Department of Materials and Metallurgical Engineering, National Institute of Foundry and Forge Technology (**NIFFT**), Ranchi – 834003, India. S**ince 30th November, 2015**.

2. **Institute Post Doctoral Fellow** under the mentorship of **Prof. B.S. Murty**, Department of Metallurgical and Materials Engineering, IIT Madras. Chennai – 600036, India. **August' 2014 to November' 2015**.

Pre-PhD

3. Tutor in the course '**Engineering Metallurgy-Manufacturing Processes' (TA-201)**, Department of Materials Science and Engineering, IIT Kanpur. During the Fall Semester **July' 2012- December' 2012**.

4. Worked as a Research Scholar Investigator with supervisor Prof. Kallol Mondal (Department of Materials Science and Engineering, IIT Kanpur) in the Project from Naval research Board, Ministry of Defense, Govt. of India (Project no -**NRB /MET /20090196**). **During July'2009-June'2012**.

Supervision

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Sl No	Name of the Student	Degree	Thesis Title	Status	Year
3	Mr. Akshay Kumar	M Tech	**A Study on Dimensionality at Different Stages During Crystallisation of Amorphous Alloys on Heating**	Defended	2017
2	Mr. Ashish Rai	M Tech	**Development of Graphene Based Copper Reinforced Composites by Spark Plasma Sintering**	Defended	2017
1	Mr. Sandeep Kumar Gupta	M Tech	**Synthesis and Characterization of Graphene Dispersed Duralumin (Al-4.5% Cu) Processed by Mechanical Alloying**	Defended	2017

UG

2	Mr. Pawan Kumar	B Tech	**Light Weight High Entropy Alloys**	Defended	2016
1	Mr.	B Tech	**High Temperature High Entropy Alloys**	Defended	2016

Publications

2017-18

12. Ravikirana, **C. Chattopadhyay**, Guruvidyarthi K, Ameey Anupam, Anil Prasad R, Adil Shaik and B.S. Murty. "On microstructural evaluation in various processing routes of AlCoCrFeNi high entropy alloy." Manuscript under preparation.

11. S. Ranganathan, S. Kashyap, **C. Chattopadhyay,** A. Takeuchi, Y. Yokoyama, B.S. Murty. "Amorphisation by destabilisation of binary crystalline intermetallic compound with equiatomic multicomponent substitution". *To be communicated to* ***Journal of Non Crystalline Solids****, 2018.*

10. **C. Chattopadhyay**, Anil Prasad and B.S. Murty. "Phase prediction in High Entropy Alloys – a kinetic approach". ***Acta Materialia***, 2018 (*Under Review*).

2016

9. **C. Chattopadhyay** and B.S. Murty. "Kinetic modification of the 'Confusion principle' for metallic glass formation'" ***Scripta materialia***, *2016, 116 pp 7-10.*

   DOI - http://dx.doi.org/10.1016/j.scriptamat.2016.01.022

2015

8. **C. Chattopadhyay,** K.S.N. Satish Idury, Jatin Bhatt, K. Mondal, B.S. Murty. "Critical evaluation of glass forming ability criteria". ***Materials Science and Technology***, *2016, 32 pp 380-400*. (Accepted and came online in 2015)
   DOI - http://dx.doi.org/10.1179/1743284715Y.0000000104

Up to 2014

7. **C. Chattopadhyay**, S. Sarkar, S. Sangal and K. Mondal. "Simulated isothermal crystallisation kinetics from non isothermal experimental data". ***Trans IIM*** *2014, 67(6) pp 945-958*.

   DOI – http://dx.doi.org/10.1007/s12666-014-0422-7

6. **C. Chattopadhyay**, S. Sangal and K. Mondal. "Relook on the fitting of viscosity with undercooling of glassy liquids", ***Bulletin of Materials Science*** *2014, 37 pp 83-93.*

   DOI - http://dx.doi.org/10.1007/s12034-014-0621-1

5. **C. Chattopadhyay**, S. Sangal and K. Mondal. "On the un availability of a universal glass forming ability criterion". ***Trans IIM****, 2014, 67(4) pp 451-458.*

   DOI – http://dx.doi.org/10.1007/s12666-013-0373-4

4. A. Barman, **C. Chattopadhyay**, S. Sangal and K. Mondal. "Comparative studies of different methods for determining crystallization kinetics of bulk metallic glasses". ***Trans IIM.*** *2012, 65 (6) pp 565-570.*

   DOI - http://dx.doi.org/10.1007/s12666-012-0180-3

3. **C. Chattopadhyay**, S. Sangal, K. Mondal and A. Garg. "Improved wear resistance of medium carbon microalloyed bainitic steels", ***Wear*** *2012, 289, pp 168–179.*

   DOI - http://dx.doi.org/10.1016/j.wear.2012.03.005

2. G. Gupta, M. Kumar, **C. Chattopadhyay** and K. Mondal. "Corrosion and Oxidation Behavior of $Zr_{58}Cu_{22}Fe_4Co_4Al_{12}$ Metallic Glass". ***Trans IIM****, 2011, 64(4-5), pp 401-408.*

   DOI - http://dx.doi.org/10.1007/s12666-011-0091-8

1. **C. Chttopadhyay**, S. Sangal and K. Mondal. "A relook at the preferred growth direction of the solid–liquid interface during solidification of pure metals." ***Acta Materialia,*** *2010, 58, pp 5342-5353.*

   DOI - http://dx.doi.org/10.1016/j.actamat.2010.06.009

Conference presentations

Invited Talks

1. **Chinmoy Chattopadhyay.** "Controlled devitrification – an advanced approach for nanocrystalisation". National Workshop on Nanoscience and Nano Technology **(NWNST-2015)**. Bankura Unnayani Institute of Engineering **(BUIE), Bankura, India**. January 19-23, 2015.

Other presentations

2016

9. **C. Chattopadhyay** and B.S. Murty." A Kinetics Based Critical Study of 'Confusion Principle' for Metallic Glass Formation" (Contributory Talk, Oral Presentation). International Conference on Advances in Materials and Materials Processing (**iCAMMP -IV**), **IIT Kharagpur, India.** November 5-7, 2016.

2015

8. **C. Chattopadhyay** and B.S. Murty. "Kinetic Model for Prediction of Phase in High Entropy Alloys" (Poster). National Workshop on High Entropy Alloys: Prospects and Challenges. **IIT Madras, India**. March 28-29, 2015.

7. S. Ranganathan, S. Kashyap, **C. Chattopadhyay,** A. Takeuchi, Y. Yokoyama, B.S. Murty. "Amorphisation by destabilisation of binary crystalline intermetallic compound with equiatomic multicomponent substitution" (Poster). National Workshop on High Entropy Alloys: Prospects and Challenges. **IIT Madras, India**. March 28-29, 2015.

Up to 2014

6. A. Barman, A.P. Moon, **C. Chattopadhyay**, S.T. Aruna, A. Balaji, Gauthama and K. Mondal. "Corrosion and erosion characteristics of in situ ball milled and atmospheric plasma sprayed Ni-Ti coating on mild steel" (Poster). National conference on Advances in Naval Materials (***ADNAM-2013***), **IIT Madras**, Chennai, India, February 22-23, 2013.

5. **C.Chattopadhyay**, S. Sangal and K. Mondal. "Evaluation of isothermal crystallization kinetics from non-isothermal experimental data for glassy alloys" (Oral). Fifth International Conference on Solidification Science and Processing. **IIT Bhubaneshwar**, **India**. November' 19-22, 2012.

4. **C. Chattopadhyay**, S. Sangal and K. Mondal. "On the un availability of a universal glass forming ability criterion" (Oral). (***IUMRS-ICA-2012)***, Busan, **South Korea** during 26-31 August, 2012.

3. **C. Chattopadhyay**, S. Sangal and K. Mondal. "A study on approximation of viscosity of undercooled liquid and glass forming ability" (Oral). International Conference on Advanced Materials and Materials Processing, (***ICAMMP -2011***) Indian Institute of Technology, Kharagpur, **India**, 9 to 11 December' 2011.

2. S. Sarkar, **C. Chattopadhyay**, A. Barman, A. P. Moon, S. Sangal and K. Mondal. "Simulated isothermal transformation kinetics from non-isothermal transformation data" (Poster). (***ICAMMP-2011***), **IIT Kharagpur**, **India**. December' 9-11, 2011.

1. **C. Chattopadhyay**, S. Sangal and K. Mondal. " Preferred growth direction of solid-liquid interface during solidification of pure metals" (Oral). 18th International Symposium on Metastable, Amorphous and nano-structured Materials (***ISMANAM-2011***), Gijon, **Spain**. June 26-July 1, 2011.

Other Professional Activities

1. Acted as 'Secretary (Convener)' of National Conference on Advances in Structural Materials (**NCASM 2016**) organized by the Department of Materials and Metallurgical Engineering, National Institute of Foundry and Forge Technology (NIFFT) Ranchi – 834003 during 16-17 December, 2016.

Experience in academic area during Ph. D.

1. Teaching Assistant in the course Nature and Properties of Materials (ESO-214) in the winter semester (December'2011-May'2012).

2. Operator cum supervisor of X-ray diffraction machine Bruker D8 X-ray diffractometer in fall semester (July-November'2011).

3. Operator cum supervisor of X-ray diffraction machine Bruker D8 X-ray diffractometer in winter semester (December'2010-May'2011).

4. Teaching Assistant-Lab instructor to core course 'Mechanical behavior of Materials' (MME-310) under Dr. Vivek Verma (Asistant Professor) in the fall semester (July-November' 2010).

5. Operator cum supervisor of High Resolution Transmission Electron Microscope (**HRTEM**) in winter semester (December'2009-May'2010).

6. Teaching Assistant of elective course 'X-ray crystallography-I' (MME-656) under Prof. S. Sangal (Professor and Head) in fall semester (July-November'2009).

7. Teaching Assistant in a core course 'Kinetics of Materials' (MME-210) under Prof. Dipak Mazumdar (Professor) in winter semester (December'2008-May'2009).

Experience in academic area during Masters (M.Tech.)

1. Teaching Assistant in an elective course 'Grain Boundary Engineering' (MME-686) under Dr. Gauthama (Associate Professor) in fall semester (July-November'2007).

2. Teaching Assistant in a core course 'Materials Characterization' (MME-250) under Dr. Gauthama (Associate Professor) in winter semester (December'2006-May'2007).

3. Teaching Assistant in a core course 'Mechanical Behaviour of Materials' (MME-310) under Dr. Gauthama (Associate Professor) in fall semester (July-November'2006).

Operational and computational skills achieved

1. Optical microscopy with image analyzer (Zeiss).

2. Scanning Electron Microscope (JEOL).

3. High Resolution Transmission Electron Microscope (Tecnai).

4. X-ray diffractometer (Bruker).

5. Differential Scanning Calorimeter (Perkin Elmer).

6. Planetary Ball Mill (Fritsz).

7. Wear testing machine (DUCOM).

8. All sorts of metallurgical operations like, metallography (from sample cutting to final polishing), sample preparation for HRTEM (cutting, polishing, spark erosion cutting, twin jet polishing etc), Heat treatment (maintenance of muffle furnaces and vacuum furnaces), forging and rolling operations to name a few.

9. Besides, several seminars and classes of undergraduate have nourished the teaching ability.

10. Computational operations in Windows general utility software and some special software e.g. MS Office, ImageJ, Adobe Photoshop, Origin, Matlab, SPSS to name a few.

Honours and Rewards

11. **INAE Summer Fellowship** for under the mentorship of Prof. B.S. Murty, IIT Madras.

10. Cash Reward for publishing paper in *Acta Materialia* from Dean of Resource and Planning Generations, IIT Kanpur.

9. Cash Reward for publishing paper in *Wear* from Dean of Resource and Planning Generations, IIT Kanpur.

8. Sub-divisional first position in 10+2 board examination. Several rewards for that from several authorities e.g. Ramkrishna-Vivekananda Mission Authority.

7. Block level first position in 10^{th} board examination.

6. Centre-First position in Science Aptitude and Talent Search Test (SATST) conducted by All India Science Teachers' Association in class 10.

5. Centre-First position in Science Aptitude and Talent Search Test (SATST) conducted by All India Science Teachers' Association in class 9.

4. Stood 4^{th} in Science Seminar entitled "Genetic Manipulation and its applications" conducted by West Bengal Youth Welfare Department, Government of West Bengal in class 9.

3. Centre-First position in Science Aptitude and Talent Search Test (SATST) conducted by All India Science Teachers' Association in class 8.

2. **National Scholarship** in class 8 by Government of India.

1. Several awards received in Primary school especially for achieving 100 on 100 in Mathematics.

Extracurricular activities

1. Indian classical **TABLA** artist, presently **disciple** of the world renowned table Maestro **Pandit Anindo Chatterjee.**

References

1. Dr. B. S. Murty
   Professor and Head, Department of Metallurgical and Materials Engineering
   Indian Institute of Technology, Madras. Chennai-600036, India.
   Email- murty@iitm.ac.in.
   Phone - +91-44-22574754; Fax - +91-44-22574752, 22570509

2. Dr. Kallol Mondal
   Associate Professor, Department of Materials Science and Engineering
   Indian Institute of Technology Kanpur. Kanpur-208016, India.
   Email- kallol@iitk.ac.in
   Phone- +91-512-259-6156; Fax- +91-512-259-7505.

3. Dr. Sandeep Sangal
   Professor, Department of Materials Science and Engineering
   Indian Institute of Technology Kanpur. Kanpur-208016, India.
   Email – sangals@iitk.ac.in
   Phone- +91-512-259-7167; Fax - +91-512-259-7505.

All the information rendered above is true to the best of my knowledge.

Chinmoy Chattopadhyay