

# Ameey Anupam

Ph.D Scholar

Department of Metallurgical and Materials Engineering

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## Education

PhD	Jan 2014 - till date Department of Metallurgical and Materials Engineering, Indian Institute of Technology Madras, Chennai, India	CGPA 9.4/10
Bachelor of Technology (BTech. (Hons.))	Aug 2009 - May 2013 Department of Metallurgical and Materials Engineering, National Institute of Technology Jamshedpur, Jamshedpur, India	CGPA 9.34/10 Ranked 3/67
All India Senior Secondary Certificate Examination (AISSCE) (XIIth)	Apr 2008 - Mar 2009 Delhi Public School, Vasant Kunj, New Delhi, India	92.4% Marks
All India Senior Secondary Examination (AISSE) (Xth)	Apr 2006 - Mar 2007 Delhi Public School, Bokaro Steel City, India	97.0% Marks

## Training and Research Projects

<b><u>Title of Project</u></b>	<b><u>Institute/Organization</u></b>	<b><u>Duration</u></b>	<b><u>Learnings</u></b>
Synthesis and Characterization of High Entropy Alloys via Mechanical Alloying and Spark Plasma Sintering	IIT Madras, As an Indian Academy of Sciences Summer Fellow	May - July 2012	Introduction to research, operational knowledge of Mechanical Alloying, X-Ray Diffraction, Spark Plasma Sintering, analysis of data
Summer Training, Orientation and Familiarisation	Steel Authority of India Limited (SAIL), Bokaro Steel City	May 2011	Overall functioning of an integrated iron and steel plant with special focus on metallurgical systems

## Publications

1. S. Praveen, **Ameey Anupam**, Teja Sirasani, B.S. Murty, and Ravi S. Kottada, "Characterization of Oxide Dispersed AlCoCrFe High Entropy Alloy Synthesized by Mechanical Alloying and Spark Plasma Sintering" Transactions of the Indian Institute of Metals Volume 66 (2013), 369-373.
2. Andrew S. Ang, Christopher C. Berndt, Mitchell L. Sesso, **Ameey Anupam**, Praveen S., Ravi Sankar Kottada, B.S. Murty, "Plasma Sprayed High Entropy Alloys: Microstructure and Properties of AlCoCrFeNi and MnCoCrFeNi" Metallurgical and Materials Transactions A , 46 (2014), 791-800.

## Oral Presentations

1. **Ameey Anupam**, Andrew S. Ang, Christopher C. Berndt, Mitchell L. Sesso, Praveen S., Ravi Sankar Kottada, B.S. Murty, "Microstructural Characterization of Thermal Sprayed High Entropy Alloys" 6th Asian Thermal Spray Conference, 2014 [Nov 24th- 26th, 2014] in Hyderabad
2. **Ameey Anupam**, Andrew S. Ang, Christopher C. Berndt, Mitchell L. Sesso, Praveen S., Ravi Sankar Kottada, B.S. Murty, "Characterization of Plasma Sprayed AlCoCrFeNi High Entropy Alloy Coatings" National Metallurgists' Day Annual Technical Meeting (NMD ATM) 2014, Pune

## Conference Proceedings

1. Andrew S.M. Ang, Christopher C. Berndt, Mitchell L. Sesso, **Ameey Anupam**, Praveen. S, Ravi Sankar Kottada, B.S. Murty. "Comparison of Plasma Sprayed High Entropy Alloys with Conventional Bond Coat Materials", International Thermal Spray Conference and Exposition (ITSC). Asm, 2015.
2. Andrew S.M. Ang, Christopher C. Berndt, Mitchell L. Sesso, **Ameey Anupam**, Praveen. S, Ravi Sankar Kottada, B.S. Murty. "Plasma Sprayed AlCoCrFeNi and MnCoCrFeNi High Entropy Alloys: High Temperature, stability, Coating Elastic Properties and Surface Roughness" International Conference on Advancements and Futuristic Trends in Mechanical and Materials Engineering (October 16-18, 2014)

## Academic Achievements

- Qualified GATE 2013, All India Rank 394 out of 2900 successful candidates
- Secured 1st position in Paper Presentation at Technica 2012, technical fest organized by Dept. of Metallurgical & Materials Engg., NIT Jamshedpur
- Awarded a National Level "Summer Research Fellowship", May-July 2012, sponsored by Indian Academy of Sciences, Bangalore, Indian National Science Academy, New Delhi and The National Academy of Sciences, India, Allahabad

## Extra-Curricular Participation

- Member of Literary and Debating Society, Soft Skills Society and Cultural and Dramatic Society at NIT Jamshedpur
- Member of Core Organizing Committee of Utkarsh 2013, Cultural Fest of NIT Jamshedpur
- Coordinator of events in Utkarsh 2013 and Ojass 2013 - the technical fest of NIT Jamshedpur
- Secured 2nd position in English Debate at Utkarsh 2012
- Member of Design Team of Ojass 2012

## Research Interests

1. High entropy alloy coatings
2. High temperature materials
3. Nanomechanical property measurement

## Research Skills

- Hands on experience with Planetary Ball Mill, Bruker and Panalytical X-Ray Diffractometer machines, FEI Scanning electron microscopes, Spark Plasma Sintering, Differential scanning calorimetry, Dilatometer
- Tools: Origin, Xpert High Score Plus, MATLAB 7, C++

## Plan for PhD

To develop in-depth knowledge about physical and mechanical aspects of High Entropy Alloys (HEAs) and their coatings for potential high temperature applications. Compositions based on Al, Cr, Co, Ti with minor additions of active metals like Y are being explored, aiming for good oxidation resistance, sluggish diffusion and optimum mechanical properties. Possibly these could be alternatives to present day Ni and Al based bond coats in thermal barrier coatings.

## References

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