

Curriculum Vitae

- 1. Name** Sumantra Mandal
- 2. Designation** Assistant Professor
- 3. Date of Birth** 15th October, 1979
- 4. Address** Department of Metallurgical and Materials Engineering
Indian Institute of Technology Kharagpur
Kharagpur, West Bengal – 721302, India
Tel: 03222-282878 (O)
Email: sumantra.mandal@metal.iitkgp.ernet.in
sumantra.mandal@gmail.com

5. Educational Qualifications

College/University	Subject	Graduation Date	Degree	Percentage/ Grade
Bengal Engineering College, Shibpur	Metallurgical Engineering	July, 2002	B.E.	79.51%
IIT Kanpur	Materials & Metallurgical Engineering	July, 2004	M.Tech	CPI 10/10
IIT Madras	Metallurgical & Materials Engineering	July, 2011	PhD	CGPA 9.25/10

6. Research Experience

Twelve years R&D experiences in the areas of alloy design, thermo-mechanical processing, materials characterization and materials modeling. Areas of interests include:

- Alloy Design (High specific strength steels, Mg alloys)
- Grain Boundaries and Interfaces
- Hot Deformation and Workability Studies
- Recrystallization and Grain Growth
- Constitutive Modeling
- Superplasticity
- Computational Materials Modeling
- Aqueous and High Temperature Corrosion
- Creep, Fatigue and Fracture

7. Membership of Academic Bodies

- Life Member, Indian Science Congress Association (ISCA)
- Life Member, Indian Nuclear Society (INS)
- Life Member, Materials Research Society of India (MRSI)

8. Awards & Honours Received

International and National Awards:

- **INSA Medal for Young Scientist**
Awarded by Indian National Science Academy (INSA) in the year 2013
- **Young Associate of INAE**
Selected as 'Young Associate' of Indian National Academy of Engineering (INAE) from the year 2013
- **Sudharshan Bhat Memorial Prize**
For the best thesis in PhD in Metallurgical & Materials Engineering, IIT Madras in the year 2011
- **IEI Young Engineers Award**
Received 'IEI Young Engineers Award 2011-2012' in Metallurgical and Materials Engineering discipline from The Institution of Engineers (India)
- **Top Cited Author 2011**
Recognized as a 'top cited author 2011' by the Elsevier publisher (for the journal *Materials Science and Engineering: A*) for the paper entitled "Constitutive equations to predict high temperature flow stress in a Ti-modified austenitic stainless steel", *Materials Science and Engineering A*, 500 (2009) 114 – 121
- **Young Metallurgist of the year Award**
'2009 Young Metallurgist of the year' award in 'Ferrous Category' from Ministry of Steel, Govt. of India
- **Associateship of the Indian Academy of Sciences**
Selected as an Associate of the Indian Academy of Sciences in the year 2009
- **TMS Shri Ram Arora International Award**
Received '2009 Shri Ram Arora Award for Materials Science and Engineering Education' from 'The Minerals, Metals and Materials Society (TMS), USA'
- **DAE Young Engineer Award**
Awarded by Department of Atomic Energy (DAE), India in the year 2007
- **INAE Young Engineer Award**
Awarded by Indian National Academy of Engineering (INAE), India in the year 2007

Fellowship:

- **Alexander von Humboldt Fellowship for Post-doctoral Researchers**

Awarded by Alexander von Humboldt foundation in the year 2011 to pursue post-doctoral research at Max-Planck-Institut fuer Eisenforschung, Duesseldorf, Germany

- **DGFS (DAE Graduate Fellowship Scheme) Fellowship**

Awarded by Department of Atomic Energy (DAE) in the year 2002 for pursuing M.Tech in Materials and Metallurgical Engineering Department in IIT Kanpur

Editorial Responsibility:

- **Key Reader**, Metallurgical and Materials Transaction E (SpringerLink Publisher)
- **Editorial Board Member**, Indian Journal of Materials Science (Hindawi Publishing Corporation)

Guest Reviewer:

Frequently invited to review manuscripts submitted to the following journals:

- Applied Soft Computing (Elsevier publisher)
- Computational Materials Science (Elsevier publisher)
- Corrosion Science (Elsevier publisher)
- Journal of Alloys and Compounds (Elsevier publisher)
- Journal of Materials Science (SpringerLink Publisher)
- Journal of Materials Engineering and Performances (SpringerLink Publisher)
- Journal of Metallurgy (Hindawi Publishing Corp)
- Materials and Design (Elsevier publisher)
- Materials Research (Ibero-american Journal of Materials)
- Materials Science and Engineering A (Elsevier publisher)
- Materials Science and Technology (Maney Publisher)
- Metallurgical and Materials Transaction A (SpringerLink Publisher)
- Metals and Materials International (SpringerLink Publisher)
- Modelling and Simulation in Materials Science and Engineering (IOP publishing)
- Neural Computing & Applications (SpringerLink Publisher)
- Steel Research International (Wiley Publisher)
- Transaction Indian Institute of Metals (SpringerLink Publisher)

9. Publications (List is given in the annexure)

- **In Referred Journal: 48**
- **In Conference Proceedings: 13**
- **In Book Chapter: 2**

(A) Article in Referred Journal

- (1) **Sumantra Mandal**, P.V. Sivaprasad, S. Venugopal, K.P.N. Murthy, Constitutive flow behavior of austenitic stainless steels under hot deformation: Artificial neural network modeling to understand, evaluate and predict, **Modelling and Simul. Mater. Sci. Eng.**, 14 (2006) 1053 -1070.
- (2) P.V. Sivaprasad, **Sumantra Mandal**, S. Venugopal, C. Narayanan, V. Shanmugam and Baldev Raj, Artificial neural network modeling of the tensile properties of indigenously developed 15Cr-15Ni-2.2Mo-Ti modified austenitic stainless steel, **Transaction of the Indian Institute of Metals**, 59 (2006) 437 – 445.
- (3) **Sumantra Mandal**, P.V. Sivaprasad, K.P.N. Murthy and Baldev Raj, Modeling the hot deformation behavior of a 15Cr-15Ni-2.2Mo-Ti modified austenitic stainless steel using artificial neural network, **Metals Materials and Processes**, 18 (2006)159-170.
- (4) **Sumantra Mandal**, P.V. Sivaprasad, R.K. Dube and Baldev Raj, Kinetics, mechanism and modeling of microstructural evolution during dynamic recrystallization of a 15Cr-15Ni-2.2Mo-Ti modified austenitic stainless steel (*Paper presented at the International Symposium on Fundamentals of Deformation and Annealing, Manchester, UK, September 4-7, 2006*), **Materials Science Forum**, 550 (2007) 601-606.
- (5) **Sumantra Mandal**, P.V. Sivaprasad and S. Venugopal, Capability of a feed-forward artificial neural network to predict the constitutive flow behavior of as cast 304 stainless steel under hot deformation, **Journal of Engineering Materials and Technology (Transaction of the ASME)**, 129 (2007) 242-247.
- (6) **Sumantra Mandal**, A. Kumar, P.V. Sivaprasad, T. Jayakumar and Baldev Raj, Characterization of microstructural evolution during thermo-mechanical processing of a 15Cr-15Ni-2.2Mo-Ti modified austenitic stainless steel using ultrasonic measurements, **Materials Science and Technology**, 23 (2007) 1381-1386.
- (7) **Sumantra Mandal**, P.V. Sivaprasad and R.K. Dube, Kinetics, mechanism and modeling of microstructural evolution during thermo-mechanical processing of a 15Cr-15Ni-2.2Mo-Ti modified austenitic stainless steel, **Journal of Materials Science**, 42 (2007) 2724-2734.
- (8) **Sumantra Mandal**, P.V. Sivaprasad and R.K. Dube, Modeling microstructural evolution during dynamic recrystallization of Alloy D9 using artificial neural network, **Journal of Materials Engineering & Performances**, 16 (2007) 672-679.
- (9) **Sumantra Mandal**, P.V. Sivaprasad, S. Venugopal, K.P.N. Murthy and Baldev Raj, Artificial neural network modeling of composition – process – property correlations in austenitic stainless steels, **Materials Science and Engineering A**, 485 (2008) 571 – 580.
- (10) **Sumantra Mandal**, P.V. Sivaprasad, Baldev Raj and V.S. Sarma, Grain boundary microstructural control through thermo-mechanical processing in a Titanium modified austenitic stainless steel, **Metallurgical and Materials Transactions A**, 39 (2008) 3298 – 3307.

- (11) **Sumantra Mandal**, S.K. Mishra, A. Kumar, I. Samajdar, P.V. Sivaprasad, T. Jayakumar and Baldev Raj, Evolution and characterization of dynamically recrystallized microstructure in a Ti modified austenitic stainless steel using ultrasonic and EBSD techniques, **Philosophical Magazine**, 88 (2008) 883 – 897.
- (12) **Sumantra Mandal**, P.V. Sivaprasad, S. Venugopal and K.P.N. Murthy, Artificial neural network modeling to evaluate and predict the deformation behavior of stainless steel type AISI 304L during hot torsion, **Applied Soft Computing**, 9 (2009) 237 – 244.
- (13) **Sumantra Mandal**, P.V. Sivaprasad, P. Barat and Baldev Raj, An overview of neural network based modeling in alloy design and thermo-mechanical processing of austenitic stainless steels, **Materials and Manufacturing Processes**, 24 (2009) 219 – 224.
- (14) **Sumantra Mandal**, V. Rakesh, P.V. Sivaprasad, S. Venugopal and K.V. Kasiviswanathan, Constitutive equations to predict high temperature flow stress in a Ti-modified austenitic stainless steel, **Materials Science and Engineering A**, 500 (2009) 114 – 121.
- (15) **Sumantra Mandal**, A.K. Bhaduri and V.S. Sarma, Studies on twinning and grain boundary character distribution during anomalous grain growth in a Ti-modified austenitic stainless steel, **Materials Science and Engineering A**, 515 (2009) 134 – 140.
- (16) K.V.S. Ramana, T. Anita, **Sumantra Mandal**, S. Kaliappan, H. Shaikh, P.V. Sivaprasad, R.K. Dayal and H.S. Khatak, Effect of different environmental parameters on the pitting behavior of AISI Type 316L stainless steel: Experimental studies and neural network modeling, **Materials and Design**, 30 (2009) 3770 – 3775.
- (17) D. Samantaray, **Sumantra Mandal**, U. Borah, A.K. Bhaduri and P.V. Sivaprasad, A thermo-viscoplastic constitutive model to predict elevated temperature flow behaviour in a titanium modified austenitic stainless steel, **Materials Science and Engineering A**, 526 (2009) 1–6.
- (18) D. Samantaray, **Sumantra Mandal** and A.K. Bhaduri, A comparative study on Johnson-Cook, modified Zerilli-Armstrong and Arrhenius type constitutive model to predict elevated temperature flow behaviour in modified 9Cr-1Mo steel, **Computational Materials Science**, 47 (2009) 568–576.
- (19) **Sumantra Mandal**, P.V. Sivaprasad and V.S. Sarma, Dynamic recrystallization in a Ti modified austenitic stainless steel during high strain rate deformation, **Materials and Manufacturing Processes**, 25 (2010) 54-59.
- (20) D. Samantaray, **Sumantra Mandal** and A.K. Bhaduri, Constitutive analysis to predict high temperature flow stress in modified 9Cr-1Mo (P91) steel, **Materials and Design**, 31 (2010) 981–984.
- (21) D. Samantaray, **Sumantra Mandal**, A.K. Bhaduri and P.V. Sivaprasad, An overview on constitutive modelling to predict elevated temperature flow behaviour of fast reactor structural materials, **Transaction of the Indian Institute of Metals**, 63 (2010) 823–831.

- (22) **Sumantra Mandal**, A.K. Bhaduri and V.S. Sarma, Grain boundary engineering in alloy D9 through thermo-mechanical processing: influence of process variables and aspects of micro-mechanisms, **Int. Journal of Advances in Eng Sciences and Applied Math.**, 2 (2010) 149 – 160
- (23) D. Samantaray, **Sumantra Mandal** and A.K. Bhaduri, Characterization of deformation instability in modified 9Cr-1Mo steel during thermo-mechanical processing, **Materials and Design**, 32 (2011) 716–722.
- (24) **Sumantra Mandal**, A.K. Bhaduri and V.S. Sarma, A study on microstructural evolution and dynamic recrystallization during isothermal deformation of a Ti-modified austenitic stainless steel, **Metallurgical and Materials Transactions A**, 42 (2011) 1062 - 1072.
- (25) D. Samantaray, C. Phaniraj, **Sumantra Mandal** and A.K. Bhaduri, Strain dependent rate equation to predict elevated temperature flow behaviour of modified 9Cr–1Mo (P91) steel, **Materials Science and Engineering A**, 528 (2011) 1071 – 1077.
- (26) **Sumantra Mandal**, A.K. Bhaduri and V.S. Sarma, One-step and iterative thermo-mechanical treatments to enhance $\Sigma 3^{\text{n}}$ boundaries in a titanium-modified austenitic stainless steel, **Journal of Materials Science**, 46 (2011) 275 – 284.
- (27) D. Samantaray, **Sumantra Mandal**, A.K. Bhaduri, S. Venugopal and P.V. Sivaprasad, Analysis and mathematical modeling of elevated temperature flow behaviour of austenitic stainless steels, **Materials Science and Engineering A**, 528 (2011) 1937 – 1943.
- (28) D. Samantaray, **Sumantra Mandal** and A.K. Bhaduri, A critical comparison of various data processing methods in simple uni-axial compression testing, **Materials and Design**, 32 (2011) 2797 – 2802.
- (29) D. Samantaray, **Sumantra Mandal** and A.K. Bhaduri, Optimization of hot working parameters for thermo-mechanical processing of modified 9Cr-1Mo (P91) steel employing Dynamic Materials Model, **Materials Science and Engineering A**, 528 (2011) 5204 - 5211.
- (30) C. Phaniraj, Dipti Samantaray, **Sumantra Mandal** and A.K. Bhaduri, A new relationship between the stress multipliers of Garofalo equation for constitutive analysis of hot deformation in modified 9Cr–1Mo (P91) steel, **Materials Science and Engineering A**, 528 (2011) 6066–6071.
- (31) D. Samantaray, **Sumantra Mandal**, C. Phaniraj and A.K. Bhaduri, Flow behaviour and microstructural evolution during hot deformation of AISI Type 316L(N) austenitic stainless steel, **Materials Science and Engineering A**, 528 (2011) 8565 – 8572.
- (32) **Sumantra Mandal**, A.K. Bhaduri, Baldev Raj and V.S. Sarma, Dynamic recrystallization during isothermal hot deformation in a titanium modified austenitic stainless steel (*Paper presented at the 4th International Conference on Recrystallization and Grain Growth at University of Sheffield, UK, July 4-9, 2010*), **Materials Science Forum**, 715-716 (2012)140-145

- (33) **Sumantra Mandal**, A.K. Bhaduri and V.S. Sarma, Role of twinning on dynamic recrystallization and microstructure during moderate to high strain rate hot deformation of a Ti modified austenitic stainless steel, **Metallurgical and Materials Transactions A**, 43 (2012) 2056 -2068.
- (34) **Sumantra Mandal**, A.K. Bhaduri and V.S. Sarma, Influence of state-of-stress on dynamic recrystallization in a Ti modified austenitic stainless steel, **Metallurgical and Materials Transactions A**, 43 (2012) 410 – 414.
- (35) **Sumantra Mandal**, A.K. Bhaduri and V.S. Sarma, Origin and role of $\Sigma 3$ boundaries during thermo-mechanical processing of a Ti-modified austenitic stainless steel, (*Paper presented at the 16th International Conference on the texture of Materials (ICOTOM-16), Mumbai, India, December 12-17, 2011*), **Materials Science Forum**, 702-703 (2012) 714-717.
- (36) D. Samantaray, **Sumantra Mandal**, S.K. Albert, A.K. Bhaduri and T. Jayakumar, Thermally activated deformation of a high-nitrogen grade 316L(N) stainless steel under compressive loading, (*Paper presented at the International Conference on Advances in Metallic Materials and Manufacturing Processes for Strategic Sectors (ICAMPS), Thiruvananthapuram, India, January 19-21, 2012*), **Materials Science Forum**, 710 (2012) 477 – 482.
- (37) D. Samantaray, **Sumantra Mandal**, Vinod Kumar, S.K. Albert, A.K. Bhaduri and T. Jayakumar, Optimization of processing parameters based on high temperature flow behavior and microstructural evolution of a nitrogen enhanced 316L(N) stainless steel, **Materials Science and Engineering A**, 552 (2012) 236 – 244.
- (38) D. Samantaray, C. Phaniraj, A.K. Bhuduri, **Sumantra Mandal** and S.K. Albert, Resisting stress for constitutive analysis in modified 9Cr-1Mo (P91) steel, **Materials Science and Engineering A**, 560 (2013) 170 - 177.
- (39) A.K. Bhaduri, D. Samantaray and **Sumantra Mandal**, Thermo-mechanical processing and process modeling of power plant materials, **International Journal of Metallurgical Engineering**, 2 (2013) 85-91
- (40) H. Zhang, K.G. Pradeep, **Sumantra Mandal**, D. Ponge, P. Choi, C.C Tasan and D. Raabe, Enhanced superplasticity in an Al-alloyed multicomponent Mn-Si-Cr-C steel, **Acta Materialia**, 63 (2014) 232-244
- (41) D. Samantaray, **Sumantra Mandal**, M. Jayalakshmi, C.N. Athreya, A.K. Bhaduri and V.S. Sarma, New insight into the relationships between dynamic softening phenomena and efficiency of hot working domains of a nitrogen enhanced 316L(N) stainless steel, **Materials Science and Engineering A** 598 (2014) 368-375
- (42) **Sumantra Mandal**, K.G. Pradeep, S. Zaefferer and D. Raabe, A novel approach to measure grain boundary segregation in bulk polycrystalline materials in dependence of the boundaries' five rotational degrees of freedom, **Scripta Materialia**, 81 (2014) 16-19

- (43) **Sumantra Mandal**, M. Jayalakshmi, A.K. Bhaduri and V.S. Sarma, Effect of strain rate on dynamic recrystallization behaviour in a nitrogen enhanced 316L(N), **Metallurgical and Materials Transactions A**, 45 (2014) 5645-5656
- (44) H. Zhang, K.G. Pradeep, **Sumantra Mandal**, D. Ponge and D. Raabe, New insights into the austenitization process of low-alloyed hypereutectoid steels: Nucleation analysis on strain-induced austenite transformation, **Acta Materialia**, 80 (2014) 296-308
- (45) K. Shyam Swaroop, **Sumantra Mandal**, C.N. Athreya, B. de Boer, V.S. Sarma, Role of carbide precipitates and process parameters on achieving grain boundary engineered microstructure in alloy 617 in a Ni-Based Superalloy, **Metallurgical and Materials Transactions A**, 46 (2015) 4740-4754
- (46) H. Zhang, K.G. Pradeep, **Sumantra Mandal**, D. Ponge, H. Springer, D. Raabe, Dynamic strain-induced transformation: An atomic scale investigation, **Scripta Materialia**, 109 (2015) 23-27
- (47) K. Deepak, **Sumantra Mandal**, C.N. Athreya, D.I. Kim, B. de Boer, Implication of grain boundary engineering on high temperature hot corrosion of alloy 617, **Corrosion Science**, 106 (2016) 293-297
- (48) K. Arun Babu, **Sumantra Mandal**, A. Kumar, C.N. Athreya, B. de Boer, V.S. Sarma, Characterization of hot deformation behavior of alloy 617 through kinetic analysis, dynamic material modeling and microstructural studies, **Materials Science and Engineering A**, 664 (2016) 177-187

(B) In Edited Books

- (49) **Sumantra Mandal**, P.V. Sivaprasad and V.S. Sarma, Microstructural modification in a 15Cr-15Ni-2.2 Mo-Ti modified austenitic stainless steel through twin Induced grain boundary engineering, In: **Applications of Texture Analysis**, Ed. A. Rollett, (NJ, USA: John Wiley & Sons), (2008) 313-321.
- (50) **Sumantra Mandal**, S. Kumar, A. Kumar, P.V. Sivaprasad, I. Samajdar, T. Jayakumar and Baldev Raj, A new methodology based on ultrasonic attenuation to characterize dynamically recrystallized microstructure in a 15Cr-15Ni-2.2Mo-Ti modified austenitic stainless steel, In: **Advances in Stainless Steels**. Eds. Baldev Raj, K.B.S. Rao, T. Jayakumar, P.V. Sivaprasad, S. Saibaba and P. Shankar (India: University Press), (2009) 125-133.

(C) Papers in conference proceedings

- (51) **Sumantra Mandal**, V. Maduraimuthu, R. Nagarajan, S. Venugopal, P.V. Sivaprasad and R.K. Dube, Grain size prediction in 15Cr-15Ni-2.3Mo-Ti modified austenitic stainless steel during thermo-mechanical processing using Artificial Neural Network, Proceedings of the **International Conference on Thermo-Mechanical Simulation and Processing of Steels (SimPro'04)** at Ranchi, India, September 2004, 99-105.

- (52) **Sumantra Mandal**, P.V. Sivaprasad and R.K. Dube, Hot working and modelling of the resulting microstructure of D9 stainless steel using artificial neural network, Proceedings of the **International Symposium of Research Students (ISRS-2004) on Material Science and Engineering** at IIT Chennai, India, December 2004.
- (53) **Sumantra Mandal**, P.V. Sivaprasad, K.P.N. Murthy and Baldev Raj, Modeling constitutive behaviour of a 15Cr-15Ni-2.2Mo-Ti modified austenitic stainless steel under hot compression using artificial neural network, Proceedings of the **International Conference on Statistical Mechanics of Plasticity and Related Instabilities** at IISC Bangalore, India, August 2005, POS(SMPRI 2005)059.
- (54) **Sumantra Mandal**, P.V. Sivaprasad and S. Venugopal, Prediction of flow stress of austenitic stainless steels under hot compression using artificial neural network, Proceedings of the **International Workshop on Neural Network and Genetic Algorithm in Materials Science and Engineering (NGMS-2006)** at BESU Shibpur, India, January 2006, 425-438.
- (55) **Sumantra Mandal**, P.V. Sivaprasad, S. Venugopal and K.P.N. Murthy, Capability of a feed-forward artificial neural network to predict constitutive behaviour of type 304L stainless steel during hot torsion, Proceedings of the **International Workshop on Neural Network and Genetic Algorithm in Materials Science and Engineering (NGMS-2006)** at BESU Shibpur, India, January 2006, 370-384.
- (56) **Sumantra Mandal**, P.V. Sivaprasad and K.P.N. Murthy, Modelling the correlation between chemical composition and tensile properties in a 15Cr-15Ni-2.2Mo-Ti modified austenitic stainless steel using artificial neural network, Proceedings of the **International Workshop on Neural Network and Genetic Algorithm in Materials Science and Engineering (NGMS-2006)** at BESU Shibpur, India, January 2006, 385-396.
- (57) **Sumantra Mandal**, V.S. Sarma, V. Maduraimuthu and P.V. Sivaprasad, Optimization of grain boundary character distribution in a 15Cr-15Ni-2.2Mo-Ti modified austenitic stainless steel through thermo-mechanical processing: Grain boundary engineering approach, Proceedings of the **International Symposium of Research Scholars (ISRS-2006) on Material Science and Engineering** at IIT Chennai, India, December 2006, 129-134.
- (58) D. Samantaray, U. Borah, **Sumantra Mandal**, P.V. Sivaprasad, I. Samajdar, and T. Jayakumar, Finite element simulation of coupled thermo-mechanical hot upsetting process of alloy D9, Proceedings of the **International Conference on Advance Manufacturing Technology (ICAMT- 2008)** at IIT Chennai, India, February 2008.
- (59) **Sumantra Mandal**, P.V. Sivaprasad, Baldev Raj and V.S. Sarma, Characterization of hot deformed microstructure in a Ti-modified austenitic stainless steel, Proceedings of the **TMS 2009 Annual Meeting and Exhibition** at San Francisco, USA, February 16 -19, 2009, 167 -174.
- (60) D. Samantaray, **Sumantra Mandal**, C. Phaniraj and A.K. Bhaduri, Flow behaviour and microstructural evolution during thermo–mechanical processing of 316L(N) austenitic

stainless steel. Proceedings of the **20th Annual Conference of Indian Nuclear Society (INSAC 20)**, Chennai, India, January 2010, 913 – 919.

- (61) Baldev Raj, T. Jayakumar, A.K. Bhaduri and **Sumantra Mandal**, Development of materials and manufacturing technologies for Indian fast reactor programme, Proceedings of the **9th Liège Conference on Materials for Advanced Power Engineering** at Liège, Belgium, September 2010.
- (62) D. Samantaray, **Sumantra Mandal** and A.K. Bhaduri, Characterization of intrinsic workability of modified 9Cr-1Mo steel during warm and hot working: A study using Dynamic Materials Model approach, Proceedings of the **International Conference on World class Materials and Manufacturing Technologies**, Mumbai, March 2011.
- (63) S.K. Pradhan and **Sumantra Mandal**, Grain boundary character modification employing thermo-mechanical processing in type 304L stainless steel, **IOP Conference Series: Materials Science and Engineering** 115 (2016) 012032

10. Citation Index of Publications : As per *Google Scholar* database as on 23.07.2016

Total number of citations: 1484, h-index: 23