

Vita

Born on 3rd January, 1979, in Kolkata, West Bengal, India, the author completed his graduation in Metallurgical Engineering in the year 2003 from Jadavpur University, Kolkata. Soon after completion, he joined the National Metallurgical Laboratory, Jamshedpur as a Project Fellow and worked in Metal Extraction and Forming Division in the field of hydrometallurgy. After about four months of research work, the author joined the Indian Institute of Technology, Kanpur for pursuing Master of Technology in the Department of Materials and Metallurgical Engineering. His keen interest towards research subsequently led him to join the Indian Institute of Technology, Kharagpur for doctoral study in the discipline of Metallurgical and Materials Engineering. In December 2009, the author joined as an Assistant Professor in the Department of Metallurgical and Materials Engineering, National Institute of Technology, Rourkela and is still continuing in the same position. He is a life member of The Indian Institute of Metals (IIM). A part of the results contained in the present thesis has been published in archived journals and in proceedings of international conference as shown below:

Papers in peer-reviewed International journals

- **Dutta, K.,** Sivaprasad, S., Tarafder, S. and Ray, K.K. (2010), Influence of asymmetric cyclic loading on substructure formation and ratcheting fatigue behaviour of AISI 304LN stainless steel, Materials Science and Engineering A, Vol. 527, pp. 7571–7579.
- Ray, K.K., **Dutta, K.,** Sivaprasad, S. and Tarafder, S. (2010), Fatigue damage of AISI 304 LN stainless steel: Role of mean stress, Procedia Engineering, Vol. 2, pp. 1805–1813.
- **Dutta, K.** and Ray, K.K. (2012), Ratcheting phenomenon and post-ratcheting tensile behaviour of an aluminum alloy, Materials Science and Engineering A, Vol. 540, pp. 30– 37.
- **Dutta, K.** and Ray, K.K. (2012), Accumulation of ratcheting strain in interstitial free steel, *submitted to an International journal for consideration of possible publication.*

Papers in proceedings of International conferences

- **Dutta, K.**, Sivaprasad, S., Tarafder, S. and Ray, K.K. (2010), Microstructural and substructural variations during symmetric and asymmetric cyclic loading of AISI 304LN stainless steel, published in the conference proceedings of The Third International Conference on Structure, Processing and Properties of Materials, SPPM2010, held at Dhaka, Bangladesh during 24–26 February 2010.
- **Dutta K.** and Ray, K.K. (2011), Uniaxial ratcheting behaviours of materials with different crystal structures, published in CD-ROM of the International Conference on Advances in Materials and Materials Processing, ICAMMP held at IIT Kharagpur during 9 – 11 December 2011.