**Abhijit Chanda**

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&

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Date of birth : 4th January, 1969

Nationality : Indian

**Specific areas of Interest** :

(1) Structure-property correlation of metals and ceramics

(2) Tribological characteristics of metals and ceramics

(3) Fracture and fatigue of fine grained ceramics

(4) Bioceramic Materials

**Awards/ Honours** :

Awarded National Scholarship in Madhyamaik Examination, 1985

Awarded a research project under SERC Young Scientist scheme from Department of Science and Technology, Govt. of India in 2004

**Research Experience :** Completed two research projects (as Principal Investigator) on **Study on the effect of environment and grain size on wear of alumina. (SR/FTP/ETA-29/2003)**and **Tribology of biomaterials used for total joint replacement**, funded by Department of Science and Technology, Govt of India and Jadavpur University, India respectively.

Completed another research project (as Joint Coordinator) on **Technology Gap Analysis study on surgical instruments manufacturing cluster at Baruipur, India,** funded by TIFAC, DST, Govt of India in 2009**. Three research projects funded by UGC, TIFAC, DST and SERC, DST are ongoing.**

Worked as a **Guest scientist** in **Washington State University, Pullman, USA** for four months in 2006-2007 on the bioceramic materials. Worked as a **Guest Scientist** in **IEF-2, Forchungszentrum, Juelich, Germany** on the mechanical characterization of Polycrystalline Pervovskite materials from January, 2010 to May, 2010.

**Organising courses/ seminars :**

(1) Organised a Two-Day Workshop on Biomaterials and Biomedical Devices on 12-

13th Dec, 2006 as **Organising Secretary**

(2) Organised a Two-Day workshop on Mechanics on 12-13 August, 2005 as

**convener**.

(3) Organised a Two-Day workshop on LASER in Biomedical Engg on 22-23

November, 2007 as **Convener.**

(4) Organising Young Scientists’ Coloquium of Materials Science Society of India as

**convenor** to be held at Jadavpur University on 25 July, 2008.

(5) Joint Organising Secretary, 6th and 7th All India Peoples Technology Congress,

FOSET, Kolkata

**Books Authored** : 1. **Fundamentals of Engg Mechanics**, Pub.: Scholar Books

(Jointly with Dr. D. Nag)

2. **Fundamentals of Strength of Materials**, Pub.: Wiley India

(Jointly with Dr. D. Nag)

**Invited talks delivered : 11**

**Chaired Technical Sessions : 4**

**List of Publications**

**Journal publications :**

1. “Wear and friction behaviour of biomaterials for total hip replacement” by A. Chanda, D. Basu, S. Chatterjee and M.K. Basu, Transaction of Powder Met. Association of India, 22, 1995, Page : 40-44
2. “Wear and friction behaviour of UHMWPE-alumina combination for total hip replacement “ by A. Chanda, D. Basu, S. Chatterjee, M.K.Basu and A. K. Mukhopadhyay in Ceramics International, 23, 1997, Page : 437-447
3. “A New parameter for measuring wear of materials” by A. Chanda, D. Basu, S. Chatterjee, A. Dasgupta, A.k. Mukhopadhyay in Journal of Materials Science Letters, 16, 1997, Page : 1647-1651
4. “A New wear model” by A. K. Mukhopadhyay and A. Chanda in Journal of Materials Science Letters, 18,1999, Page : 149-151
5. “Materials for orthopaedic implants : past and present” by A. Chanda in Everyman’s Science, XXXII, 4, 1998, Page : 167 - 170
6. “Comparison of wear properties of alumina-alumina articulating surfaces with conventional material couples used for total Hip Arthroplasty” by A. Chanda, R. Singha Roy, D. Basu & M. K. Mitra, Transaction of Indian Ceramic Society; 64[4] ,2005, Page : 203-212.
7. “A Comparative study of Alumina wear in Air and Distilled Water” by R. Singha Roy, A. Chanda, D. Basu, J. Inst. Engrs; 86, 2005, Page : 59-63.
8. “Role of Apparent Contact Pressure on Sliding Wear of Polycrystalline Alumina in Conformal Contacts” by R. Singha Roy, A. Chanda, D. Basu & M. K. Mitra, InterCeram; 55 [2], 2006.
9. List of Journal Publication in Last five years (2007-2011)
10. “Sliding wear behaviour of submicron grained alumina in biological environment” by R. Singha Roy, A. Mondal, A. Chanda, D. Basu and M. K. Mitra, J. Biomed. Mater. Res. – Part A, 83A, 2007, Page : 257-262
11. “Improved sliding wear resistance of submicron grained alumina: a comparison with coarser grained material” by R. Singha Roy, H. Guchchait, A. Chanda, D. Basu and M. K. Mitra, J. Euopean. Ceram. Soc. 27, 2007, Page : 4737-4743.
12. “Distinct wear characteristics of submicron grained alumina in air and distilled water – A brief analysis on experimental observation” by R. Singha Roy, A. Chanda, D. Basu and M. K. Mitra, J. Am. Ceram. Soc. 90[9] 2007, Page : 2987-2991
13. Bone cell-materials interaction on alumina ceramics with different grain sizes Abhijit Chanda, Rajdeep SinghaRoy, Weichung Xue, Susmita Bose, Amit Bandyopadhyay,Material Science & Engg C, Vol 29, Page 1201-1206, 2009
14. Microwave sintering of Calcium Phosphate Ceramics by Abhijit Chanda, Sudip Dasgupta, Susmita Bose and Amit Bandyopadhyay, Journal of Materials Science and Engg C, Vol 29, Isuue 4, 2009
15. Micro and macroindentation behaviour of Ba0.5Sr0.5Co0.8Fe0.2O3−d perovskite by A. Chanda, B. Huang, J. Malzbender and R. W. Steinbrech, Journal of European Ceramic Society, Vol 31, Issue 3, 401, 2010
16. Study of Microstructure and Mechanical Properties of Human Cortical Bone by S. Biswas, P. C. Pramanik, P. Dasgupta & A. Chanda, International Journal of Scientific & Engg Research (ISSN-2229-5518), vol-2, Issue 3, 2011
17. Development of nano-grained Calcium Hydroxyapatite using slip casting technique by Howa Begam, Abhijit Chanda and Biswanath Kundu, International Journal of Scientific & Engg Research (ISSN-2229-5518), vol-2, Issue 3, March 2011
18. “Effect of Crack Geometry on Dynamic Stress Intensity Factor under Impact Loading in Three Point Bend Configuration for a High Density Alumina Specimen” by T. Murmu, M.K.Barai, S. Sinha Roy, J. Shit, D. Nag and A. Chanda, , International Journal Engg, Science & Technology (ISSN-0975-5462), vol-3, Issue 3, March 2011
19. “Impact fatigue behaviour of fully dense alumina ceramics with different grain sizes” by Manoj Kumar Barai, Jagabandhu Shit, Abhijit Chanda and Manoj Kr. Mitra, International Journal of Scientific & Engg Research, (ISSN – 2229-5518) vol-2 Issue 4, April 2011
20. Clinical and Computational Study of Geometry & Hemodynamics of Arterial Stenosis by Krittika Dasgupta, Abhirup Roy Choudhury, Abhijit Chanda, Debabrata Nag , International Journal of Scientific and Engg Research, (ISSN-2229-5518), Vol 2, Issue 4, April 2011
21. Development and Physical, Chemical and Mechanical Characterization Of Doped Hydroxyapatite by Promita Bhattacharjee, Howa Begam and Abhijit Chanda , International Journal of Scientific & Engg Research, (ISSN-2229-5518), vol 2, Issue 4, April 2011
22. [Mechanical characterization of porous Ba0.5Sr0.5Co0.8Fe0.2O3−d](http://www.sciencedirect.com/science/article/pii/S0955221911003232?_alid=1846160611&_rdoc=3&_fmt=high&_origin=search&_docanchor=&_ct=3&_zone=rslt_list_item&md5=5aef4251380d9f7ba015f9c40347cdc4)  by M. Lipinska-Chwalek, J. Malzbender, A. Chanda, S. Baumann, R.W. Steinbrech, Journal of European Ceramic Society, Volume 31, Issue 15, Pages 2997-3002, 2011,
23. Indentation strength method to determine the fracture toughness of La0.58Sr0.4Co0.2Fe0.8O3 and Ba0.5Sr0.5Co0.8Fe0.2O3 by B. Huang, J. Malzbender, A. Chanda & R.W. Steinbrech, Journal of Material Science, Volume 47, Issue 6, Pages 2695-2699, 2012
24. Bone ingrowth to Insulin like growth factor-1 loaded Zinc doped Hydoxyapatite Implants : An In-vivo Study by Brihat Chetri, Samit Kumar Nandi, Abhijit Chanda and Howa Begam, (http://dx.doi.org/10.4172/sceintificreports. 234) Open Access Scientific Reports, Vol 1 Issue 4, 2012
25. Improved properties of hydroxyapatite–carbon nanotube biocomposite: Mechanical, in-vitro bioactivity and biological studies by Susmita Mukherjee, Biswanath Kundu, Swarnendu Sen and Abhijit Chanda, Accepted for publication in Ceramics International, November, 2013

**Papers presented in conferences/ workshops/ symposiums :**

1. “Study on the wear characteristics of alumina-alumina material combination used for total hip arthroplasty” by A. Chanda, D. Basu, M.K. Mitra, presented at National Conference on Biomedical Materials, CGCRI, 2002
2. “Development of high density, high purity fine grained alumina from nano powders following conventional processing routes” by R. Singha Roy, H. Guchait, A. Chanda, D. Basu & M. K. Mitra; Proceedings of ‘National Conference on Nano-Science and Technology’, 21st January, 2005, Jadavpur University, Kolkata, e-proceedings, paper No. -17.
3. Study on the impact fatigue behaviour of bio-grade alumina by J.Shit, T. Murmu, M.K.Barai, S. Singha Roy, R. Singha Roy, D. Nag , A. Chanda presented at Workshop on Biomaterials and Biomedical Devices, CGCRI, 2006
4. Impact fatigue behaviour of alumina : Effect of grain size and crack geometry by M. K. Barai, D. Nag, A. Chandaand M.K. Mitra, presented at ALUMINAS-2008 at CGCRI, 2008
5. Unidirectional sliding wear-resistance of alumina with sub-micron grain size by R. Singha Roy, H. Gucchait, A. Chanda, M.K. Mitra presented at ALUMINAS-2008 at CGCRI, 2008
6. Development Of Magnesium Substituted Bioactive Ceramic by S. Mukherjee, B.Kundu, A. Chanda and D. Basu, Proceedings of RAM-2008 held at Siddhartha College of Engg, Vijaywada, Andhra Pradesh, India
7. Impact Fatigue Behaviour Of Fully Dense Alumina Ceramics With Different Grain Sizes by Jagabandhu Shit, Manoj Kumar Barai, Abhijit Chanda, Tony Murmu , Manoj Kumar Mitra, Proceedings of RAM-2008 held at Siddhartha College of Engg, Vijaywada, Andhra Pradesh, India
8. Evaluation of Dynamic Stress Intensity Factor using FEA for Impact Fatigue-specimens of Alumina with Different Average Grain sizes. By Manoj Kumar Barai, Jagabandhu Shit, Abhijit Chanda, Manoj Kr Mitra Proceeding of FEM-08 held at Oxford Engg College, Bangalore, India
9. Haemodynamics in stenosed artery : a clinical and computational study by Krittika Dasgupta, A. Roy Chowdhury, D. Nag and A. Chanda, 13th Annual Paper Meet, BUET, Dhaka, 2010
10. Geometry and Hemodynamics of Arterial Stenosis: a clinical and computational Study. Krittika Dasgupta, A. Roy Chowdhury, D. Nag and A. Chanda ICSMB, IEEE Kharagpur Chap. 2010
11. Development and Characterization of Doped Hydroxyapatite Using Simple Chemical Route. Promita Bhattacharjee, Howa Begam, Abhijit Chanda. International Conference of Biomedical Engineering and Assistive Technologies, NIT, Jalandhar.2010.
12. Fracture and Deformation of Human Cortical bone: Micro mechanical features. S. Biswas, P.C.Pramanik, P.Dasgupta, A.Chanda. 13th Annual Paper Meet, BUET, Dhaka., 2010
13. A Comparative study of micro-mechanical properties between male and female human cortical bone. S. Biswas, P.C.Pramanik, P.Dasgupta, A.Chanda. ICSMB, IEEE Kharagpur Chap., 2010
14. Synthesis and Characterization of nano-grained Hydroxyapatite through slip-casting technique. Howa Begam, Abhijit Chanda, Biswanath Kundu. ICSMB, IEEE Kharagpur Chapter., 2010
15. Development and Characterization of Chitosan-HAp composite. S.Chatterjee, A.Chanda, K.Paul. International Conference of Biomedical Engineering and Assistive Technologies, NIT, Jalandhar.2010.
16. Experimental Study and Characterization of Chitosan-HAp composites for Orthopedic Implant Material. By S. Chatterjee, A. Chanda and K.Paul ICSMB,2010,IIT,Kharagpur
17. Thermo-mechanical characterization of porous BSCF substrates for oxygen transport membranes by M. Lipinska-Chwalek, J. Malzbender, St. Bau-mann, R. Steinbrech and A. Chanda, DKG-Jahrestagung 2011, 28.-30. March, 2011,   
    Saarbrücken, Germany