

Resume of Dr. Alok Sinha



1. **Name:** Dr. Alok Sinha

2. **Address (Office)**

Centre of Mining Environment
Department of Env. Science and Engg.
Indian School of Mines
Dhanbad-826004

(Residence)

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3. **Date of Birth:** August 11, 1969

4. **Present Designation:** Assistant Professor

5. **Name of the Institution:** Indian School of Mines, Dhanbad-826004

6. **Academic Qualifications:**

(i) High School	1984	CBSE	Eng., Hindi, Maths, Science, So. Sci.	74.9%
(ii) Intermediate (10+2)	1986	AMU, Aligarh	Physics, Chem, Maths, Bio, Eng., Urdu	68%
(i) B. E.	1986-1990	Z.H.C.E.T., A.M.U., Aligarh	Civil Engg.	77.56%
(ii) M.E.	1990-1992	Z.H.C.E.T., A.M.U., Aligarh	Hydraulic Structures	82.6%
(iii) Ph.D.	2001-2007	IIT Kanpur	Environmental Engineering	8.81/10

7. **Field of Specialization:** Groundwater Remediation

8. **Fellowships/Awards/Distinction:**

- Awarded with MHRD Scholarship for M.E. after qualifying GATE, 1990 with an overall percentile of 93.2 (95.87 percentile in Civil Engg. & 80.2 percentile in Basic Sciences and Engineering)
- Ranked second in M.E. (Hydraulic Structures), 1990 batch with 82.6% marks at Z.H.C.E.T., A.M.U., Aligarh.
- Best paper award for paper titled "Predicting Long Term Performance of Cast Iron Permeable Reactive Barrier Treating 2-Chloronaphthalene" at National Conference on Environmental Conservation (NCEC 2006), Sept 1-3, 2006, BITS Pilani.

- Accredited by Quality Council of India-National Accreditation Board for Education and Training (QCI-NABET) as Functional Area Expert (FAE) for carrying out EIA for Water Pollution, Hydrogeology and Solid Waste.

9. Position Held Earlier:

Industrial Experience

- Served as Senior Field Engineer at Jai Prakash Enterprises Ltd., J.P. Cement, Rewa, M.P., India and supervised the construction of Ball Mill-4 (30 M. HT.). Experience in construction of high rise building and heavy machine foundations. Supervised the construction of prestigious Sardar Sarovar project at Kevadia, Gujrat, India (04.01.1993 to 16.12.1993)
- Worked independently as a partner of Mr. Sunil Kumar Saxena, Er. And contractor, Noida and undertook the survey work of alpha, beta and Gamma sector of Greater Noida as contract job under C.P.W.D. (25.12.1993 to 30.04.1995)
- Served as Civil Engineer at J.K. Industries Ltd., J.K. Tyre Plant, Banmore, Morena and undertook the construction of modernized Passenger Radial Tyre plant at Banmore. (01.05.1995 to 28.02.1998)
- Worked as Civil Engineer at Cottage Industries and Exposition Ltd., Goa and supervised the construction of their showroom at Cavelossim, Goa. (20.03.1998 to 23.07.1998)

Teaching Experience

- Serving as Assistant Professor in the department of Civil Engineering, Indian School of Mines University, Dhanbad, Jharkhand from 8th April 2009.
- Served as Assistant Professor in the department of Civil Engineering, H. B. T. I. Kanpur. (14.02.2007 to 31.03.2009)
- Served as Lecturer in Shri Ram Murti Smarak College of Engineering & Technology, Bareilly. (23.08.1998 to 26.06.2001)

Research Experience

Six years of intense research (July 2001 to Feb 2007) at **Indian Institute of Technology, Kanpur** as a research scholar in the field of “**Reductive Dehalogenation of Chlorinated Organic Compounds by Commercial Iron Filings: Mechanisms, Rate, Extent and Long-Term Performance**” under the guidance of **Prof. Purnendu Bose**, Department of Civil Engineering, IIT Kanpur.

10. Paper Published

International Journal

1. Sinha, A. and Bose, P. (2006) “Dehalogenation of 2-chloronaphthalene by cast iron”. *Water Air and Soil Pollution*, 172 (1-4), pp. 375-390. (I.F. 1.676)
2. Sinha, A. and Bose, P. (2007) “Interaction Of 2-Chloronaphthalene with High Carbon Iron Filings (HCIF): Adsorption, Dehalogenation And Mass Transfer Limitations”. *Journal of Colloid and Interface Science*, 314 (2), pp. 552-561. (I.F. 3.019)
3. Sinha, A. and Bose, P. (2009) “Interaction Of Chloroethanes And Chloroethenes With Un-Rusted And Rusted High Carbon Iron Filings”. *Journal of Environmental Engineering Science*, 26(1), pp. 61-70. (I.F. 1.111)

(Cited by: Modeling Arsenite Adsorption on Rusting Metallic Iron by Susmita Roy, Purnendu Bose, Journal of Environmental Engineering. Jan 2010, Vol. 136, No. 4: 405).

4. Sinha, A. and Bose, P. (2009) “Interaction of 2,4,6-Trichlorophenol with High Carbon Iron Filings: Reaction and Sorption Mechanisms”. *Journal of Hazardous Materials*, 164(1), pp. 301-309. (I.F. 4.144)

(Cited by C. Noubactep “An analysis of the evolution of reactive species in Fe⁰/H₂O systems” Journal of Hazardous Materials, Volume 168, Issue 2-3, pp 1626-1631, 2009)

5. Singh, G. and Sinha, A. (2011) “ Phytoremediation of Cr(VI) Laden Waste by *Eichhornia crassipes*” *Int. J. Environmental Technology and Management*, Vol. 14, Nos. 1/2/3/4, pp. 33-42. (ISSN (Online): 1741-511X - ISSN (Print): 1466-2132)
6. Sinha, A. and Bose, P. (2011) “2-Chloronaphthalene Dehalogenation by High Carbon Iron Filings (HCIF): Impact of Formation of Corrosion Products on HCIF Surface” *Journal of Environmental Engineering Science*, 28(10): 701-710.

International Conference

1. Sinha A., Agrahari P.K. and Bose P., “Reductive Dechlorination of 2-Chloronaphthalene by Cast Iron”, proceedings of International Conference on Hydrological Perspectives for Sustainable Development (HYPESD-2005), IIT Roorkee, Vol. II, pp 973-982, Feb 2005.
2. Agrahari P.K., Sinha A. and Bose P., “Application of Advanced Oxidation Processes for Degradation of Organic Micropollutants in Water- A Review”, proceedings of International Conference on Hydrological Perspectives for Sustainable Development (HYPESD-2005), IIT Roorkee, Vol. II, pp 962-972, Feb 2005.
3. Sinha A. and Bose P., “Reductive Dechlorination Of 2,4,6-Trichlorophenol By Cast Iron”, proceedings of International Conference on Environmental Management, JNTU, Hyderabad, October 2005.
4. Sinha A. and Bose P., “Enhancement in Reductive Dechlorination Of 2-Chloronaphthalene by Rusted Cast Iron”, International Conference on Management of Water, Wastewater and Environment: Challenges for the developing countries, Sept 13-15, 2006, Nepal.
5. Sinha A. and Bose P., “Effect of Corrosion Product Development on Reductive Dehalogenation by Cast Iron Treating 2-Chloronaphthalene: Sorption and Reactivity”, Environmental Research Event (ERE-2006), Dec 10-13, 2006, Macquarie University, NSW, Australia.
6. Sinha A. and Bose P., “Reactive Transport Of 2-Chloronaphthalene through Cast Iron Filings”, International conference on Civil Engineering in the New Millenium: Opportunities and challenges (CENeM -2007), Jan 11-14, 2007, Bengal Engineering and Science University, WB, India.
7. Singh, G., Kakkar, D., Verma, P.K. and Sinha, A. “Discoloration of Azo-Dyes by Zero-Valent Iron”, International Conference on Emerging Technologies in Environmental Science and Engineering, AMU, Aligarh, pp 55-62, Oct 26-28, 2009.
8. Sinha, A., Singh, G. and Srivastava, R. “Jharia Action Plan: An Opportunity for Roof Water Harvesting” Proceedings of International Conference on Water Harvesting, Storage and Conservation (WHSC-2009), IIT Kanpur, pp. 18-19, Nov. 23-25, 2009.
9. Srivastava, R.K. and Sinha, A. “Application of Zero-Valent Iron in Remediation of Chromium in Groundwater” International Conference on Recent Advances in Environmental Protection (RAEP-2009), St. John’s College, Agra, pp 570-577, Dec. 17-19, 2009.
10. Singh, G., Sinha, A. and Srivastava, R. “Review on Endocrine Disrupting Chemicals: Remedial Options” Proceedings of International Conference on Environmental Health and Technology (EH&T 2010), CESE, IIT Kanpur, pp. 109, March 15-17, 2010.
11. Srivastava, R.K. and Sinha, A. “Modeling of Reduction of Chromium (VI) by Zero-Valent Iron” Proceedings of International Conference on Mother Earth: Save it for Future Generation (ICME 2010), University of Burdwan, Burdwan, pp 69, Feb. 13-15, 2010.
12. Sinha A. and Bose P., “Dehalogenation of 2-Chloronaphthalene with Un-Rusted HCIF in Semi-Batch and Continuous Systems”, Proceedings of International conference on Environmental Science and Technology (ICEST 2010), Houston, Texas, USA, pp 30, July 12-16, 2010.
13. Srivastava, R.K., Singh, G. and Sinha, A. “Reduction of Chromium (VI) by Zero Valent Iron (ZVI): Impact of Chlorides” Proceedings of International conference on Environmental Science and Technology (ICEST 2010), Houston, Texas, USA, pp 30, July 12-16, 2010.
14. Kalra, S.S., Mohan, S. and Sinha, A. “Advanced Oxidation Processes for Treatment of Textile and Dye Wastewater: A Review” Proceedings of International Conference on Environmental Science and Development (ICESD 2011), Mumbai, pp 271-275, Jan 7-9, 2011.

15. Lama, Y. and Sinha, A. "Surfactant Enhanced Motility and Stability of nano-Zero Valent Iron (n-ZVI) for in-situ Remediation of Groundwater" Proceeding of International Conference on Climate change Forest Resource and Environmnet (ICCFRE-2011), pp 172, University of Kerala, Thiruvananthpuram, Dec 9-11, 2011.
16. Pande, G. and Sinha, A. "Impacts of Leachate Percolation on Ground Water Quality: A Case Study of Dhanbad City" Proceedings of International Congress of Environmental Research (ICER-11), SVNIT, Surat, December 15-17, 2011.
17. Sinha, A. "Insitu Remediation of Groundwater in Chromite Mining Areas by Nano Particles" Proceedings of 4th Asian Mining Congress, pp 328-331, The Mining, Geological and Metallurgical Institute of India (MGMI), Kolkata, January 29-31, 2012.
18. Yadav, G.K. and Sinha, A. "Mass Transfer Limitations for Reduction of Chromium (VI) by High Carbon Iron Filings (HCIF)" Proceedings of International Conference on "Advances in Architecture and Civil Engineering (AARCV 2012)", pp 431-434, School of Architecture and Department of Civil Engineering, M.S.R.I.T., Bangalore, June 21-23, 2012.

National Conference

1. Sinha A. and Bose P., "Zero-Valent Iron Mediated Dehalogenation of Chlorinated Organic Compounds", proceedings of National Conference on Advances in Environmental Science and Engineering, IIT Bombay, WW -02, December 2003.
2. Sinha A., Bose P. and Agrahari P.K., "Zero-Valent Iron: A Boon for remediation of Groundwater Pollution", proceedings of Workshop on Environmental Pollution: Perspectives and Practices, I.E.T. Lucknow, pp 193-197, April 2004.
3. Sinha A. and Bose P., "Predicting Long Term Performance of Cast Iron Permeable Reactive Barrier Treating 2-Chloronaphthalene", National conference on Environmental conservation (NCEC 2006), BITS Pilani, Sept 1-3, 2006.
4. Sinha A. and Kumar P., "Application of Nano-Technology in Remediation of Groundwater", proceedings of 4th National Seminar on Recent Strategies of Management, Technology and Environmental Control, pp 83-86, S.D.C.E.T., Muzzafarnagar, Feb 9-10, 2008.
5. Gulati, P., Verma, P. K., Singh, G. and Sinha, A. "Assessment and Status of Battery Waste Management in Kanpur" proceedings of National Seminar on Electronic Waste (NASEW -10) NML, Jamshedpur, Jan 21-22, 2010.
6. Sinha A. "Disposal And Recycling of E-Waste In India: Impact Assessment", proceedings of National Conference on "Sustainable Management Of E-Waste" Dec 14-15, 2010, Bhaskaracharya College of Applied Sc., Univ. of Delhi, Delhi.
7. Lama, Y. and Sinha, A. "In-situ Remediation of Groundwater Contaminated with Organochlorine Pesticides" Proceedings of All India Seminar on Advances in Mine Production and Safety, pp 315 -326, CIMFR, Dhanbad, Aug 26-27, 2011.
8. Sinha, A. "Climate Change Impacts on Water Resources in India" Proceedings on Seminar on World Habitat Day-2011, Institution of Engineers, ISM, Dhanbad, October 17, 2011.
9. Lama, Y. and Sinha, A. "Zero Valent Iron: An Option for Treatment of Groundwater" Proceeding of National Seminar on Mining Equipment: New Technologies, Challenges & Applications (MENTCA 2012), pp 67-76, ISM, Dhanbad, January 19-21, 2012.
10. Kumar, R. and Sinha, A. "Advanced Oxidation Based Technologies for Treatment of Arsenic in Groundwater" Proceeding of National Seminar on Mining Equipment: New Technologies, Challenges & Applications (MENTCA 2012), pp 77-90, ISM, Dhanbad, January 19-21, 2012.
11. Yadav, G.K., Tomar, S. and Sinha, A. "Remediation of Hexavalent Chromium by High Carbon Iron Filings" Proceeding of National Conference on Recent Trends in Chemical Sciences, pp 39, Department of Applied Chemistry, BIT, Deoghar, February 18-19, 2012.
12. Kumar, R. and Sinha, A. "Treatment Of Textile Wastewater Containing Azo Dyes By Physical And Chemical Processes" in Proceedings of National Conference on Sustainable Development of Groundwater Resources in Industrial Regions (SDGRIR 2012), pp 130-139, ESE Department, ISM, Dhanbad, Mar 22-23, 2012.
13. Sharma, N., Agrawal, K., Sinha, A. and Mishra, B.K. "Groundwater Management in Mining Areas" in Proceedings of National Conference on Sustainable Development of Groundwater

- Resources in Industrial Regions (SDGRIR 2012), pp 152-156, ESE Department, ISM, Dhanbad, Mar 22-23, 2012.
14. Singh, P.K., Mishra, B.K., Gupta, S. K. and Sinha, A. "Distribution and Propagation of Arsenic in Indogangatic Plain and Removal Technology" in Proceedings of National Conference on Sustainable Development of Groundwater Resources in Industrial Regions (SDGRIR 2012), pp 176-183, ESE Department, ISM, Dhanbad, Mar 22-23, 2012.
 15. Jha, P., Agrahari, A. and Sinha, A. "Errors Involved in the Estimation of Groundwater Quality Index" in Proceedings of National Conference on Sustainable Development of Groundwater Resources in Industrial Regions (SDGRIR 2012), pp 217-225, ESE Department, ISM, Dhanbad, Mar 22-23, 2012.
 16. Kumar, R. and Sinha A. "Natural Adsorbents for Treatment of Textile Wastewater" Proceedings of national Seminar on Biodiversity: Its Conservation and Sustainable Development for Human Welfare, pp 41-42, University Department of Zoology, Vinoba Bhave University, Hazaribag, April 7-9, 2012.

11. Books and Monographs

- Edited the proceedings of two days Faculty Development Programme on "Recent Strategies for Remediation of Environmental Pollution", Apr 25-26, 2008, HBTI, Kanpur.
- Edited the proceedings of two days National Conference on "Sustainable Development of Groundwater Resources in Industrial Regions (SDGRIR 2012)" Mar 22-23, 2012, ESE Department, ISM, Dhanbad.

12. Member of Editorial Board

- International Journal of Water Resources and Environmental Engineering (IJWREE), Academic Journals
- African Journal of Environmental Science and Technology (AJEST), Academic Journals
- Science Journal of Environmental Engineering, <http://physicalscience.sciencejournals.cc>
- World Applied Sciences Journal (WASJ), ISSN: 1818 – 4952
- Associate Editor (ID: BIJ-ED-R1248) in Bonfring International Journal of Industrial Engineering and Management Science.

13. Invited Lectures Delivered/Panel participation

- "Ground Water Pollution: Remedial Measures" at the Institution of Engineers (India), Kanpur Local Centre, Kanpur on 20th July 2007.
- "Remediation of Groundwater by Zero-Valent Iron" In: Water-2007 held at C.S.A. University of Agriculture and Technology, Kanpur, May 10, 2007.
- "Ground Water Pollution: Sources and Remediation" In: Faculty Development Program on "Water Resources and Environmental Management" held at Department of Civil Engineering, Bundelkhand Institute of Engg & Tech, Jhansi, November 27-28, 2007
- "In-situ remediation of groundwater." In: Faculty Development Programme on "Recent Strategies for Remediation of Environmental Pollution" held at HBTI Kanpur, April 25-26, 2008.
- "Biological Disasters: Bio-Terrorism" In: One week workshop on "Disaster Management and Mitigation" held at HBTI Kanpur, March 16-21, 2009.
- "Ground Water Pollution: Remedial Measures" In: Afghanistan Training Program and Study Tour under World Bank aided Project on "Building Institutional Capacity for Sustainable Environment and Social Management in Mining Sector in Afghanistan", held at ISM, Dhanbad, December 29, 2009 to January 13, 2010.
- "Management of Water Resources in Mining Industry" In: training program for SAIL Executives on "Environment and Ecology of Mines" held at Management Training Institute, Ranchi during June 13-15, 2011.
- "Treatment and Disposal of Drilling Waste" In: Professional Development Program on "Drills And Drilling For Mineral Resources" held at ISM, Dhanbad, 26-30 September, 2011.

14. Membership of Professional Bodies

- Life Member, Indian Aerosol Science and Technology Association (IASTA).
- Senior Member, Asia Pacific Chemical, Biological, & Environmental Engineering Society (APCBEEES) (Member NO.: 100017).
- Life Member, Society of Applied Biotechnology (No.: LM -93/11).
- Life Member, Indian Water Works Association (IWWA) (LM -6954)
- Member, The Institution of Engineers (India) IEI (M -145454-9)
- Life Member, The Mining, Geological & Metallurgical Institute of India (MGMI) (No. 10154- LM, 2012-13)

15. Consultancy Assignments

- 2007-2008: Testing of building materials (Various Govt. Organizations like PWD, Bridge Corporation, BSNL, UPRNN, NHAI etc.)
- 2007-2008: Approval of water quality to suit construction requirements as per IS: 456-2000 (Various Govt. Organizations like PWD, Bridge Corporation, BSNL, UPRNN, NHAI etc.)
- Jan 2008: To check the quality of construction of 11 buildings at Chaudhary Charan Degree College at Hevra, Etawah (Regional Higher Education Officer, Kanpur Zone)
- Aug 2008: Assessment of construction quality of workshop building in Electronic sector at ITI (Principal, Industrial Training Institute, Kanpur)
- July 2009: Socio Economic Survey of Affected Families at Fire and Subsidence Area in Jharia Coalfield (Jharia Rehabilitation and Development Authority)
- May 2010: Design of Particulate Emission Control System & Preparation of Environmental Management Plans for Coke-Oven Plants of Dhanbad (Coke Oven Units)
- April 2011: Monitoring of Environmental Parameters in respect of Ambient Air, Ambient noise, Stack Emission and Effluents of BTPS “B”
- April 2012: Monitoring of Environmental Parameters in respect of Ambient Air, Ambient noise, Stack Emission and Effluents of BTPS “B”

16. Seminar/Conferences/Short Term Courses Organized

- Volunteered in organizing annual IASTA meeting and International conference on “Aerosol clouds and Indian Monsoon” at IIT Kanpur, November 15-17, 2004.
- Co-convenor for a two day Faculty Development Program on “Recent Strategies for Remediation of Environmental Pollution” held during 25-26 April, 2008 at Department of Civil Engineering, HBTI, Kanpur under TEQIP, World Bank.
- Co-convenor for one week workshop on “Disaster Management and Mitigation” held during 16-21 Mar, 2009 at Department of Civil Engineering, HBTI, Kanpur under TEQIP, World Bank.
- Co-Organizing Secretary for two days National Conference on “Sustainable Development of Groundwater Resources in Industrial Regions (SDGRIR 2012)” Mar 22-23, 2012, ESE Department, ISM, Dhanbad.
- Co-CI for 3 days training programme Junior and Middle level Executives of Drinking Water and Sanitation Department on “Water and Wastewater Treatment and Management” held during 7-9 Nov. 2012

17. Administrative Responsibilities Held/Continuing

- Examination Controller in S.R.M.S. College of Engineering and Technology, Bareilly from 1999-2001.
- Accounts Secretary for Married Students Welfare Committee (M.S.W.C.) from 2003-2004 at S.B.R.A., IIT Kanpur.
- Incharge, Summer Training, for III year B. Tech. Civil Engg. Students at HBTI Kanpur from 2007- Mar 2009

- Member, Research Council, Indian School of Mines, Dhanbad from Aug 2010 till present
- Member, Moderation Board, Academic Council, Indian School of Mines, Dhanbad from Nov 2009-2011

18. *Additional Information*

- Practical examiner, paper setter and evaluator for UPTU examinations
- Developed the laboratory for Kinematics of Machines at Department of Mechanical and Industrial Engineering, SRMS College of Engineering and Technology, Bareilly.
- Conceptualized and Organized the Annual Cultural Event “ZEST” at SRMS College of Engineering and Technology, Bareilly in consecutive years 1999 & 2000.

(Alok Sinha)