

Brief Biodata

1. **Name:** **Mahesh Kumar Jat**
2. **Date of Birth:** December 15th, 1972
3. **Name of the Department:** Civil Engineering
4. **Specialization:** Water Resources (Civil Engineering)
5. **Qualification and Teaching Experience:**

Education		
Degree	Year of passing	Division of marks
B.E (Civil)	1997	77.6 % (Hons.)
M.E. (Water Resources)	2000	76 % (Hons.)
Ph.D	IIT Roorkee Topic “Integrated Water Management Modelling in an Urban Fringe Using Remote Sensing and GIS”	

Professional/Teaching/Research Employment

S. No.	Employer	Post held	Pay scale (Rs.)	Period of employment	
				From	To
1	M. N. I. T. Jaipur	Reader	12000-18300/-	Since March 2008	
1	M. N. I. T. Jaipur	Sr. Lecturer	10000 – 15200/-	3-10-2006	2-03-2008
2	M. N. I. T. Jaipur	Lecturer	8000 – 13500/-	6-3-1999	3-10-2006
3	Chief Engineer, PHED, Govt. of Rajasthan	Jr. Engineer	6500 – 10500/-	28-5-1998	5-3-1999
4	Chief Engineer, R.S.E.B., Govt. of Rajasthan	Jr. Engineer	6500 – 10500/-	18-12-1997	27-5-1998

Research Papers Published

Paper Published in Refereed International Journals

1. Santosh Pingale, Deepak Khare, H. C. Sharma & **Mahesh K Jat** (2009) “Design of Water Harvesting Structure based on Supply and Demand of Water in a Hilly

Watershed". Journal of Environmental Research and Development, Vol. 3, No. 3, 645-653.

2. **Jat, Mahesh Kumar**, Khare, D., and Garg, P. K., (2009), Degradation of watershed health due to urbanisation: a remote sensing and GIS based assessment, Urban Water Journal, Volume 6, Issue 3, 251-263.
3. **Jat, Mahesh K.**, Khare, D., and Garg, P. K., (2009), Urbanisation and its impact on groundwater: A remote sensing and GIS based assessment approach, The Environmentalist, Volume 29, Issue 1, 17-32.
4. **Jat, Mahesh K.**, Garg, P. K., and Khare, D., (2008), Monitoring and Modelling of Urban sprawl Using Remote Sensing and GIS Techniques, International Journal of Applied Earth Observation and Geoinformation, 10, 26-43. Elsevier Sciences Ltd.
5. **Jat, Mahesh Kumar**, Garg, P. K., and Khare, D., (2007), Modelling of urban growth using spatial analysis techniques: A case study of Ajmer city (India), International Journal of Remote Sensing, Taylor and Francis Ltd, 29: 2, 543-567 (2007).
6. **Jat, Mahesh K.**, Khare, D., and Garg, P. K., (2007), Classification of Spectrally Mixing Land Use Classes: A Case Study of an Urban Fringe, International Journal of Applied Remote Sensing, Spectrum Sciences Inc., Vol. 1, No. 1, 29-43.
7. Khare, D., **Jat, Mahesh Kumar** , and Devasunder, J. K., (2007), Assessment of water resources allocation options: conjunctive use planning in a link canal command, Resource Conservation and Recycling, Elsevier Sciences Ltd., 51 (2007), 487-506.
8. Khare, D., **Jat, Mahesh Kumar**, and Ediwahyunan, (2006), Assessment of conjunctive use planning options: a case study of Sapon irrigation command area of Indonesia, Journal of Hydrology, Elsevier Sciences Ltd, 328, 764-777.
9. Pareek, N., **Jat, M. K.**, and Jain, S. K., (2006), Utilization of Brackish water, protect the quality of upper fresh water layer in Coastal areas, The Environmentalist, Springer Verlag, Environmentalist (2006) 26:237-246.
10. Dhore K. A., Khare D., Garg P. K., **Jat M. K.**(2006), Conceptual Framework of Decision Support System for Watershed Management in India. Earth & Life, An International Web Based Journal of Geosciences (<http://www.geofinds.com>), Vol. 1, No. 4, 1-17, (2006-12-4).

Paper Published in Refereed National Journals

1. **Jat, Mahesh K.**, Khare, D., and Garg, P. K., (2009), Cost Models/Functions for Waste Water Treatment, Journal of Indian Water Works Association (IWWA). (Accepted)
2. **Jat, Mahesh K.**, Khare, D., and Garg, P. K., (2008), Cost Models/Functions for Water Treatment, Journal of Indian Water Works Association (IWWA), January-March, 2008.
3. Khare, D., Garg, P. K., **Jat, Mahesh Kumar** and Dhore K., (2007), Selection of Optimum Canal Alignment Using GIS: River Interlinking Perspective, Indian Journal Power and River Valley Development, March-April, 112-121.
4. **Jat, Mahesh K.**, Khare, D., and Garg, P. K., (2006), Assessment of groundwater recharge using water level fluctuation methodology in GIS environment, Indian Journal of Power and Valley Development, Vol. 56, No. 5&6, 165-172.
5. **Jat, M. K.**, Khare, D., and Garg, P. K., (2005), Integrated water management in urban areas: Ecological and economic advantages, Journal of Indian Building Congress, Vol. 12, No 1, 186-193, July 2005.
6. Durbude, D. G., **Jat, Mahesh Kumar**, Shravankumar, G., and Singh, R. K., (2005), Application of remote sensing and GIS for the planning of water harvesting structures, Indian Journal of Power and Valley Development, Vol. 55, No. 6, 165-174, June 2005.
7. **Jat, M. K.**, Kumar, S., and Poonia, M. P., (2000), CO_2 , Methane, SO_2 Reduction Through Bio-gas Generation, National J. of Environmental sciences, NEERI, 2001, Vol. 42, No. 3, 117-120, July 2000.

Paper Published in International/ National Conferences

1. Santosh M Pingale, **Mahesh K Jat** and Deepak Khare (2009) "Perspective of Urban Water Demand Management in Changing Climate" *Proceeding of Seminar on Integrated Water Resources Management: Demand Assessment and Management organized by Water Resource Department, Bureau of Indian Standard (BIS), New Delhi*, March 20, 2009, pp16-26.
2. Santosh Pingale, Deepak Khare, H.C. Sharma & **Mahesh K Jat** (2008) "Design of Water Harvesting Structure based on Supply and Demand of Water in a Hilly Watershed". *Proceeding of International Conference on Environmental Research—2008 held at Goa during 18-20 Dec*, pp 948 (also presented).

3. Santosh Pingale, H.C. Sharma, Deepak Khare, **Mahesh K Jat** and Harish Chandra (2008). "Land and Water Resources Management Using Remote Sensing and GIS—A Case Study of Hilly Watershed". *Proceeding of National Conference on Sustainable Water Resources Development and Management—2008 held at Aurangabad* during 13-14 June, pp 142-149 (presented and published).
4. Santosh Pingale, **Mahesh Kumar Jat**, Deepak Khare (2008). "Integration of GIS in Environmental Modelling and Hydrological Analysis: A Review of Integration Technologies". *Proceeding of National Conference on Infrastructure planning in Civil Engineering at NIT Hamirpur* during 16-17 June, pp 289-298 (presented and published).
5. Jat, Mahesh Kumar, Khare, D. and Garg, P. K., (2008), Integrated water management in an urban area: A case study, In Proceedings of National Conference on "Infrastructure Development in Civil Engineering (IDCE-2008)", Department of Civil Engineering, NIT Hamirpur, 235-246.
6. Pingle, Santosh, Jat, Mahesh Kumar and Khare, D., (2008), Integration of GIS in Environmental modelling and hydrological analysis: A review of information technologies, In Proceedings of National Conference on "Infrastructure Development in Civil Engineering (IDCE-2008)", Department of Civil Engineering, NIT Hamirpur, 289-297.
7. Khare, D., and Garg, P. K., **Jat, Mahesh K.**, (2007), Impact of Urbanisation on Watershed Hydrology and Hydrogeology, In Proceedings of ASABE Forth Conference on Watershed Management to Meet Water Quality Standards and TMDLS Issues: Solutions and Impediments to Watershed Management and TMDLS, 19-23, held at Crowne Plaza Riverwalk, San Antonio, Texas (USA).
8. **Jat, Mahesh K.**, Khare, D., and Garg, P. K., (2006), Urbanisation and Geomorphological Changes: A Study of Urbanized Watersheds Using Spatial Technology, In: Proceedings of International Conference on Hydrology and Watershed Management (ICHWAM-2006), Centre for Water Resources, Institute of Science & Technology, JNTU, Hyderabad.
9. Khare, D., **Jat, Mahesh K.**, and Garg, P. K., (2006), Impact of Impervious Surfaces on Watershed Hydrology and Hydro-geology: A Case Study of Ajmer (India), In: Proceedings of International Conference on Hydrology and Watershed Management

- (ICHWAM-2006), Centre for Water Resources, Institute of Science & Technology, JNTU, Hyderabad.
10. Khare, D., Jha, A., **Jat, Mahesh K.**, and Dhore, K., (2006), Runoff Estimation in an Ungauged Watershed Using Geographic Information System, In: Proceedings of International Conference on Hydrology and Watershed Management (ICHWAM-2006), Centre for Water Resources, Institute of Science & Technology, JNTU, Hyderabad.
 11. Gupta, S. K., **Jat, M. K.**, Garg, P. K. and Singh, Ranvir, (2006), Urban growth change detection through remote sensing and GIS techniques, ICORG-2006, Geoinformatics for Rural Development –Achieving synergy between technical and social systems” June 5-8, 2006, HYDERABAD 500072, India.
 12. **Jat, M. K.**, Garg, P. K., and Khare, D., (2006), Impact assessment of urban growth on groundwater quantity and quality using Remote Sensing and GIS: A case study of Ajmer (India) urban area, ICORG-2006, Geoinformatics for Rural Development – Achieving synergy between technical and social systems” June 5-8, 2006, HYDERABAD 500072, India
 13. **Jat, M. K.**, Garg, P. K., and Khare, D., (2006), Assessment of urban growth pattern using spatial analysis techniques, In Proceedings of Indo-Australian Conference on Information Technology in Civil Engineering (IAC-ITCE), 20-21 February, 2006, page 70.
 14. Devasunder, J. K., **Jat, M. K.** and Khare, Deepak (2005), Assessment of conjunctive use options in a proposed link canal command, Proceedings of International Symposium on Recent Advances in Water Resources Development & Management (RAWRDM-2005), 23-25 November 2005, Indian Institute of Technology Roorkee, Roorkee(India), 170-187.
 15. Sharma, R., Choudhary, M., **Jat, M. K.**, and Kumar, Sudhir, (2003), Assessment of groundwater pollution through GIS, Proceedings of International Symposium on Water Resources Planning and Management (ISWRPM-2003), 11-12 October, BITS, Pilani (India), 196-201.
 16. **Jat, M. K.**, Sharma, Gunwant (2002). Remote sensing and GIS applications in Hydrology, Proceedings, National Conference on, New Trends in Civil Engineering, MBM Engineering College, Jodhpur, Rajasthan, India, February 2002, 323-326.
 17. **Jat, M. K.**, Jain, A. K., (2002). Cogeneration: Energy from Waste, Proceedings, International Conference on Techno-Commercial aspects of decentralized Approach

in Waste to Energy, March 1 – 3, 2002, Malaviya National institute of Technology, Jaipur.

Journal Papers Under Review

1. Jat, Mahesh K., Khare, D., and Garg, P. K., (2007), Integrated conjunctive use modelling of water resources for water deficient urban areas, Journal of Hydrology, Elsevier Sciences Ltd. (**Under Review**)
2. Jat, Mahesh K., Khare, D., and Garg, P. K., (2007), Discrimination of Spectrally Overlapping Land Use / Land Cover Classes in an Urban Fringe, International Journal GIScience and Remote Sensing, Taylor and Francis. (**Under Review**)

Journal Papers Reviewed

1. Marvin Bennett and Kenneth Tobin, (2006), Estimating Spatially Distributed Potential Groundwater Recharge with Geographic Information Systems, Hydrogeology Journal, Springer Verlag, Manuscript Number HJ-206-0396.
2. Wang, Hangsui and Yanyan Dang, (2007), Water right institution and strategies of the Yellow River Basin, Water Resources Management, Springer Verlag, Manuscript Number 20060612.
3. Devesh Pandey, S. N. Panda and N. S. Raghuwanshi (2008), Management of surplus canal water supply: An Application of Simulation Model in an Irrigation District of Chhattisgarh State (India), Springer Verlag, Manuscript Number: WARM553

Invited Lectures Delivered

1. Two lectures delivered in ISTE sponsored Training programme on Water management at Jaipur Engineering College Kukas, held in March 2009.
2. One lecture delivered in AICTE sponsored QIP course on Application of High Resolution satellite Images, organized by the Civil Engineering Department, IIT Rooree on 22-06-2009.
3. One lecture delivered at IGPRS Jaipur on “Water Conservation through watershed Intervention Works” in a Ministry of Rural Development (GOI) sponsored Training Programme for watershed development engineers (TOT) organized by IGPRS on 07-09-2009.

Foreign Academic Visits

1. Visited UNESCO-IHE Delft, The Netherlands to participate in a two week programme on “Climate Change and Integrated Water Management” during 8th September 2008 to 20th September 2008.
2. Visited Greenwich University, Greenwich, London, UK for Academic interaction and to explore academic collaborations during March 2009.

M. E./ M. Tech Dissertations Guided

S. No.	Name of Student	Title of Thesis	Year	Co-Guide
1	Yaduveer Singh	A study of Rainfall Runoff Relationship for the Isarda Sub-watershed of Banas River.	2002	Dr. Gunwant Sharma
2	Ruchika Sharma	Analysis and mapping of ground water pollution from textile industries in Sanganer Town (Jaipur) through application of Geographical Information System.	2003	Dr. Sudhir Kumar
3	Naresh Kumar	Water balance study of the Ramgarh catchment area using GIS technique.	2003	-
4	Kamlesh Kumar	Mapping and analysis of vehicular pollution in Central Jaipur through application of Geographical Information System.	2004	Sh. Pawan Kalla
5	Vaibhav Garg	Rainfall-runoff modeling using GIS and ANN Techniques.	2004	-
6	Vishnu Kumar Tulara	A GIS based comparative study of groundwater quality and geomorphology.	2004	Dr. Sudhir Kumar
7	Miss Nidhi Poonia	Characterization and Treatment of Grey Water for Recycling	2009	

Courses/Workshops Organised

1. A two week AICTE sponsored summer school is organized for faculty members of Engineering Institutes on “Soft Computing Skills in Engineering” held from 11th December 2008 to 24th December 2008.
2. A two week AICTE sponsored summer school is organized for faculty members of Engineering Institutes on “Management and Mitigation of Natural Disasters” held from 14th July 2008 to 26th July 2008.
3. A Two day training program was organized for Rajasthan Housing Board Engineers on “Multistoried residential apartments” from 8th December – 9th December 2007, at MNIT Jaipur.

4. A two day workshop was organized on “Quality Assurance in Civil Engineering Projects, 5th November to 6th November 2007, MNIT Jaipur
5. A TEQIP sponsored Short term course on “ Urban Water Management” was organized during 12th October – 16th October 2007, at MNIT Jaipur
6. A TEQIP sponsored Short term course on “Computational Methods in Engineering” was organized during 16th October – 20th October 2007, at MNIT Jaipur
7. One day workshop on “Rural Technology Transfer and Demonstration” was organized on 27-10 -2007 for CAPART.

Details of Sponsored Project/ Consultancy

S. No.	Title of Project	Completed/ In progress	Duration	Amount/ Grant (Rs.)	Sponsoring Agency	Co-Investigator
1	GIS based Distributed Groundwater Modelling	Submitted	2 Year	15 Lac	DST	Mahender Choudhary
2	Climate change & Urbanization : Problems and Solution Strategies	Submitted	3 Year	58.00 lakh	AICTE NCP	Dr. Deepak Khare, IIT Roorkee
3	Water management plan for Jawaharlal Navodaya Vidyalaya Paota	In Progress	2 Year	6.90 Lac	DST	Mahender Choudhary
4	Checking of Drainage System Design for Sikar	Completed	1 month	200,000.0	MCD, Sikar	Prof. Gunwant Sharma & Prof. Y. P. Mathur
5	Environmental Assessment & Monitoring of DPIP Project	Completed	4 years	40 Lac	DPIP, Govt. of Rajasthan	Department
6	Checking of the detailed project reports of Pradhanmantri Gramin Sadak Yojana (PMGSY)	Completed	Since 2003	24 Lakh	Ministry of Surface Transport, Govt. of India	Department
7	Third party quality inspection of water supply and drainage projects	Completed	2003-04	18 Lakh	RUIDP, Govt. of Rajasthan	Department
8	Hydraulic and surge analysis of water supply rising main of Sawainadhopur City	Completed	2009	2.40 lakh	PHED Rajasthan	Individual

9	Planning and Design of Drainage System for Mahal Road and surroundings in Jagatpura, Jaipur	In progress	2009	2.71 lakh	JDA,	Individual
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List of Subjects Taught at U.G/M.Tech Level

At U. G. level

1. Introduction to remote sensing and GIS
2. Surveying
3. Water Resources and Fluid Machines
4. Engineering Graphics

M.Tech. Level

1. Urban Storm Water Management
2. Remote Sensing & GIS and their Application in Water Resources
3. Hydrology

Membership of International/National societies:

1. Indian Society for Technical Education (ISTE): LM 61284
2. Member of American Society for Civil Engineers (ASCE) since 2006: Identification No. 465229
3. Life Member of Indian Society of Remote Sensing (ISRS).
Membership No.: L 1705
4. Life Member of Indian Water Resources Society (IWRS).
Membership No.: LM-88-1760
5. Life Member of the Indian Association of Hydrologists (IAH).
Membership No.: LM-1380
6. Life Member of Indian Society for Construction Materials and Structures.
Membership No.: LM-665
7. Life Member of Indian Society for Wind Engineering.
Membership No.: LM-356
8. The Indian Society for Technical Education
Membership No.: LM-61284

Short Term/ Refresher Courses Attended

S. No.	Short Term Course Title	Duration	Duration (Weeks)	Institute
1	Climate Change in Integrated Water Management	08-09-2008 to 19-09-2008	02	IHE Delft, The Netherlands
2	Advance Applications of SCS-CN Technique	30-10-2006 to 03-11-2006	01	IIT Roorkee
3	Geomatics Engineering – Principles and Applications	26-6-2005 to 14-01-2006	03	IIT Roorkee
4	Remote Sensing and GIS Applications with Special Emphasis to Infrastructure Planning	06-6-2005 to 10-6-2005	01	IIT Roorkee
5	Groundwater Modelling	21-2-2005 to 25-2-2005	01	IIT Roorkee
6	Application of FEM for Structural Analysis	21-6-2004 to 25-6-2004	01	M.N.I.T Jaipur
7	Earthquake resistant Design and Retrofitting of Reinforced Concrete Buildings	30-6-02 to 12-7-02	2	I. I. T. Roorkee
8	Remote Sensing, GIS and its Applications	3-12-01 to 22-12-01	3	R. R. S. S. C (ISRO) Jodhpur
9	Remote Sensing and GIS Applications to Water Resources	4-6-01 to 27-7-01	8	I. I. R. S (NRSA - ISRO) Dehradun
10	Recent Trends in IC Engines, Alternate Fuels & Pollution Control	20-12-99 to 1-1-2000	2	M. R. E. C. Jaipur
11	Ground Water Exploration: Quantitative & Qualitative Aspects	25-10-99 to 6-11-99	2	M. R. E. C. Jaipur
12	Integrated Environmental Management: Sustainable Development	21-6-99 to 3-7-99	2	M. R. E. C. Jaipur

Expertise in Software's

Water Resources

1. WaterCAD
2. StormCAD
3. SWMM
4. EPANET

Image Processing

1. ERDAS Imagine
2. ILWIS

GIS Packages

1. GRASS
2. ARC-INFO