# CURRICULUM VITAE

**Dr. Hemanta Medhi**
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Civil Engineering Department
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## ACADEMIC QUALIFICATION

**Doctor of Philosophy** (Thesis Defended; *8th Jan, 2019,* Submitted: *22nd June 2018*)
Department of Civil Engineering, IIT Kanpur.
Major: Hydraulics and Water Resources Engineering.

**Master of Technology** in 2012
Department of Civil Engineering, IIT Kanpur.
Major: Hydraulics and Water Resources Engineering.

**Bachelor of Engineering** in 2006
Department of Civil Engineering, AEC, Gauhati University.
Major: Civil Engineering.

## PUBLICATIONS

***Peer reviewed Journals***

- Pramod Soni; Hemanta Medhi; Anitya Sagar; Pulkit Garg; Abhay Singh; Umesh Karna (2022) "Runoff estimation using digital image processing for residential areas". Journal of Water Supply: Research and Technology-Aqua, Vol 71 (8): 938–948, doi: https://doi.org/10.2166/aqua.2022.070

- Pankaj Singh, Rakesh Chandra Vaishya, Pramod Soni, Hemanta Medhi (2022) "A Methodological Comparison on Spatiotemporal Prediction of Criteria Air Pollutants". Asian Journal of Atmospheric Environment, Vol. 16, No. 1, 2021087, 2022, doi: https://doi.org/10.5572/ajae.2021.087

- Hemanta Medhi and Shivam Tripathi (2015) "On identifying relationships between the flood scaling exponent and basin attributes". CHAOS, American Institute of Physics, vol.25 (7) pp.1-12. (Impact Factor 2.83), https://doi.org/10.1063/1.4916378

- Ankit Modi, Vinod Tare, Hemanta Medhi , Pankaj Kumar Rai (2020) “A framework for the hydrological assessment of at-site bankfull discharge-width for (semi-) incised Ganga river in Middle Ganga plains” Journal of Hydrology, vol.586 (Impact Factor 4.5), https://doi.org/10.1016/j.jhydrol.2020.124912
- Sreedevi Moharana, Hemanta Medhi and Subashisa Dutta (2016). “Advanced vegetation indices for sensing paddy growth via hyperspectral measurements”. Geocarto International, 30 (2), 130-147. (Impact Factor 2.39), https://doi.org/10.1080/10106049.2016.1232315
- Tapas Karmaker, Hemanta Medhi and Subashisa Dutta (2017) “Study of channel stability in the braided Brahmaputra River using satellite imagery”. Current Science, Vol 112, No 7, 1533-1543. (Impact Factor 0.756), DOI:10.18520/CS/V112/I07/1533-1543
- Subashisa Dutta, Hemanta Medhi, Tapas Karmaker, Yogesh Singh, Upasana, I. Prabu (2012). “Probabilistic flood hazard mapping for embankment breaching”. ISH Journal of Hydraulic Engineering, 16:sup1, 15-25. https://doi.org/10.1080/09715010.2010.10515012
- Hemanta Medhi and Shivam Tripathi “Affinity based clustering for regional flood frequency analysis”. Journal of Hydrology (*under review*).

***Book Chapter***

- Hemanta Medhi and Shivam Tripathi (2021) Utilizing Stream Network for Regional Flood Frequency Analysis in Ganga Basin. In: Chauhan M.S., Ojha C.S.P. (eds) The Ganga River Basin: A Hydrometeorological Approach. Society of Earth Scientists Series. Springer, Cham. https://doi.org/10.1007/978-3-030-60869-9_12 ; ISBN 978-3-030-60868-2
- Shikha Chourasiya, Bivash Talukdar, Vikas Kumar Vidyarthi, Aayushya Vajpayee, Saeid Eslamian and Hemanta Medhi (2022) Modeling Reference Evapotranspiration with Limited Climatic Data for Indian Regions Using Artificial Neural Networks. In: Eslamian S., Barua P., Eslamian F., (eds) Water Scarcity: Global Perspective, Issues and Challenges. Nova Science Publishers.
- Hemanta Medhi, Pramod Soni, Vikas Kumar Vidyarthi, and Shikha Chourasiya (2022) Understanding the Relationship between Normalized Difference Vegetation Index and Meteorological Attribute Using Clustering Algorithm. In: Khatri N., Vyas A.K., Celestine I., Chatterjee P. (eds) Precision Agriculture for Sustainability: Use of Smart Sensors, Actuators, and Decision Support Systems. Apple Academic Press. ISBN: 971774913734

## CONFERENCES

• **Hemanta Medhi** and Shivam Tripathi (2015) "Identification of hydrological homogeneous regions using spectral clustering". HYDRO-2015, December 17-19, IIT Roorkee.

• Sreedevi Moharana, **Hemanta Medhi** and Subashisa Dutta (2013). "New Vegetation Indices for Monitoring Paddy Growth using Hyperspectal Measurements". ISG-ISRS, December 4-6, Visakhapatnam.

• **Hemanta Medhi** and Shivam Tripathi (2012) "Input variable selection for regional hydrologic analysis for Ganga basin". HYDRO-2012, December 7-8, IIT Bombay.

• Subashisa Dutta, **Hemanta Medhi**, Tapas Karmaker, Yogesh Singh, Upasana, I. Prabu (2009). "Probabilistic flood hazard mapping for embankment breaching". HYDRO-2009. 17-18 Dec., pp 246-253.

## TRAININGS/ WORKSHOPS

- 5-day online FDP on "Inculcating Universal Human Values in Technical Education" organized by AICTE 21-25 June, 2021
- Workshop on "Chemical Reaction-Energetics & Rates", 16-19 December, 1999, **JBNSTS** Calcutta.
- Workshop on "The mysteries of the universe", **JBNSTS**, 17-18 February, 2000, Guwahati.
- Training on STRUDS, January, 2005 at **CADD Solutions**, Guwahati.
- Project entitled "Effect of time of concentration on hilly urban watershed" under the guidance of Dr. Arup Kr. Sarma, July, 2005, **IIT Guwahati.**
- Training on "RISAT-UP Radar Remote Sensing and Applications", December 01-12, 2008, **SAC, ISRO**, Ahmedabad.
- National students' conference on River Basin Planning, BRiP-2011, **IIT Kanpur**, 04-05 Nov, 2011 in Kanpur.
- Workshop on the use of BASINS/HSPF software by Dr. Anurag Mishra of AQUA TERRA Consultants, California, USA, organized by the Department of Civil Engineering **IIT Kanpur** (2013).

- Poster presentation on “Identifying the relationship between the flood scaling exponents and the basin attributes”. Research scholar day, March 2014, **IIT Kanpur.**
- Seminar on “Improving Livelihoods in Water-challenged Environments of the Developing World”, by Prof. Faisal Hossain, University of Washington, USA, **IIT Kanpur**, July 2018.

## PROFESSIONAL MEMBERSHIP

- American Society of Civil Engineering
- The International Association of Hydrological Sciences

## REVIEWER

- Journal of Earth System Science.

## RESEARCH WORK INTEREST

- Importance of feature selection for hydrological data.
- PUBS
- Regionalization
- Flood Scaling Laws