Curriculum Vitae

Dr. Vikram Kumar

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Website: https://state.bihar.gov.in/planning/ Date of Birth: - 26/06/1986



CURRENT POSITION

Scientist (Hydrology), Bihar Mausam Seva Kendra, Planning & Development Department, Patna – India. (Since, Apr-2021)

RESEARCH INTERESTS

Experimental Hydrology, Water Resources Management, Watershed Modeling, Agriculture Planning, River Engg., RS & GIS

PAST EDUCATIONS

- Ph.D. (Hydrology) from Indian Institute of Technology Roorkee, Roorkee Uttarakhand (2013-2018). Topic: "Hydrological Response of an Experimental Watershed of Lesser Himalaya"
- M. Tech. (Hons.) (Hydraulics and Water Resources Enga.) from Indian Institute of Technology BHU, Varanasi (2009-2011). Topic: "Equilibrium Detention Storage and Time of Travel for Various Cross-sectional Configurations of Open Channels".
- B.E. (Civil Engineering) from Govt. Engineering College Kota, Rajasthan (2004-2008) (Now RTU, Kota).
- Participated in Summer School on Sustainable Water Management in Rural Landscapes, Kiel University, Germany, 2015.

WORK EXPERIENCES

Technical

- **Head of Department and Asst. Prof.**, Civil Engg. Dept., Gaya College of Engineering, Gaya, Bihar, Jan-2018 March-2021.
- Head of Department and Asst. Prof., Civil Engg. Dept., Poornima Group of Institution, Jaipur. July-2011-Dec-2012.
- Planning Engineer, Hyundai Engineering & Construction Company (South Korean Company), September-2008-July-2009. **Administrative**
- **Industry and Alumni Relation, Faculty In-Charge,** Gaya College of Engineering, Gaya, Bihar, Jan-2020 continue.
- **Research and Development, Faculty In-Charge,** Gaya College of Engineering, Gaya, Bihar, May-2019 continue.
- **Training and Placement Officer**, Gaya College of Engineering, Gaya, Bihar, April-2018 continue.
- Assistant Warden (Residential, Rajiv Bhawan, Boys hostel, 600 students), IIT Roorkee, September-2013 June 2015.
- General Secretary, Civil Engineering Society, IIT B.H.U., Varanasi, Uttar Pradesh, 2010-11.
- Mess Manager, Morvi Hostel, Indian Institute of Technology B.H.U., Varanasi, Uttar Pradesh, 2010-11.
- Event Manager, Abhiyyakkti, National Technical cum Cultural fest of Engg College Kota, Rajasthan, 2007.

Scientific/Technical Events

- Convener, International Conference, IDEA-2021, Bodh Gaya, India. 8-10 Feb 2021
- Coordinator, 15 days, Short term course for students on GIS, in support of EdgeFx and TEQIP-III, 17-28, September 2020
- Convener, 1-week FDP on Managerial, Leadership skills, and Professional Ethics, TEQIP-III, 10-16, September 2020.
- Coordinator, 5 days FDP on Sustainability Engineering, sponsored by ATAL-AICTE, Govt of India, 17-21, August 2020.
- **Organizing Secretary.** National Conference Infrastructure Development & Environmental Assessment (**IDEA**), 22-24-Oct 2019.
- Convener, Workshop on Soft Computing (So-Co, 2019), March 5-9, 2019, Gaya College of Engineering.
- Convener, Short Term Course on Remote Sensing and GIS, September 17-21, 2019, Gaya College of Engineering.
- Convener, National Workshop on Advancement and Trends in Water Resources. (NWATWR-2018) March 13-17, 2018.
- **Coordinator,** *IIRS Distance Learning Program,* Gaya College of Engineering, Gaya, Bihar, April 2018 to continue.
- Organizing Committee Member, 2nd International Conference, Prague, Czech Republic. August 12-13, 2019.
- **Technical Committee Member**, International Conference (SMMA 2018), Chongqing, China. September 15-18, 2018.
- Editorial Board Member: Springer (SN Applied Science), AS Agriculture and Reviewer in Springer, Elsevier and many more

RESEARCH PROJECTS (3)

- Understanding the relationship between rainfall-runoff behavior and runoff generation mechanisms, Sponsored by AICTE-MHRD, **12.34** Lakhs. 2019 (Role - **PI**), (July 2019 – March-2021)
- Modeling and Mapping Soil Infiltration Rates of Gaya District, Sponsored by AKU-TEQIP, 3 Lakhs. 2019 (CO-PI)
- Sediment modeling using HEC-RAS with foreign collaboration with an Instrument loan of worth 20 Lakhs (PI).

LIST OF PUBLICATIONS (Books, Paper Publication and Conference Participation)

Book (6)

- Vikram K. Deepak A. Prashant S., Biplab G., Anil K., "WEENTECH Proceedings in Energy", U.K. 2021, ISSN: 2059-2353
- Vikram K. and Dhirendra K., "Swelling Behavior of Expansive Soil", LAMBERT Publishing, Germany, 2016, ISBN 978-3-659-93480-3.
- Vikram K. and Rama S., "Building Technology", Priya Tech Publication, 2013, 978-81-9240-90-9-2.
- Vikram K., Sirvi N. L. and Kalirawna M. R., "Theory of Structure Vol I", Priva Tech Publication, 2013, 978-81-9240-29-5-6.
- Vikram K., "Hydraulics and Hydraulic Machines", Priya Tech Publication, 2012, 978-81-9240-49-9-8.

• Vikram K., Gupta R. C. and Vishnaliya B. K., "Quantity Surveying and Valuation", Priya Tech Publication, 2012, 978-81-9240-29-9-4.

Book Chapter (2)

- Vikram K., Shanu, "Application of Machine Learning Techniques for Clustering of Rainfall Time Series Over Ganges River Basin", in: Chauhan M.S., Ojha C.S.P. (eds) The Ganga River Basin: A Hydro-meteorological Approach. Society of Earth Scientists Series. pp 211-218, 2021. DOI 10.1007/978-3-030-60869-9_14. (Springer)
- **Vikram K.** and Sumit S., "Analysis of Spring Discharge in the Lesser Himalayas: A Case Study of Mathamali Spring, Aglar Watershed, Uttarakhand". 2017. DOI 10.1007/978-981-10-5711-3_23. (Springer)

Papers in International Journal (20)

- **Vikram K.** and Granthi, S., "Role of river stage in characterization of phreatic line", World Journal of Engineering, 18(3): 426-441, 2021 DOI:10.1108/WJE-03-2020-0100 (Scopus)
- Vikram K., Barkha C; Padam O.; Shaktibala and H.Md. Azamathulla,, "Experimental study on infiltration pattern: Opportunities for sustainable management in the Northern region of India", Water Science and Technology (IWA) 2021. (Accepted in Press) (SCI)
- Prashant B, Hazi Azamathulla, Lee L., **Vikram K** and Jerome H., Predictive modelling of the stage–discharge relationship using Gene-Expression Programming", Water Supply (IWA) 2021. DOI: 10.2166/ws.2021.111. (Accepted in Press). (SCI)
- Padam Jee Omar and **Vikram K.**, "Assessment of damage for Dam Break Incident in Lao PDR using SAR data", International Journal of Hydrology Science and Technology. 2021. (Accepted in Press) (Scopus)
- Vikram K. and Santosh P., "Application of High-Frequency Spring Discharge Data: A Case Study of Mathamali Spring Rejuvenation in garhwal Himalaya". Water Supply, 20 (8): 3380–3392, 2020. DOI: 10.2166/ws.2020.223 (SCI)
- Vikram K., Kailash N., Manvendra S. C., Prabaht K. S. D., Shyam B. D., "Identification of Groundwater Prospective Zones of Varuna Wate rshed using Weighted Overlay Method". Journal of Environmental Protection. 2020. (Scopus) (Accepted, in Press)
- **Vikram K.**, Sumit S. and Pankaj C., "Prioritization of Aglar sub-watersheds for watershed management perspective in Lesser Himalaya using geospatial approach", Modeling Earth Systems and Environment. 2020. 7(2), 1269-1279. (Scopus)
- Ayatou K.K., Pachoukova I., Raj B., **Vikram K.** "Influence of Flat-Shaped Aggregates in Granular Skeleton on Its Compactness". Lecture Notes in Civil Engineering, Vol 72, 41-49, 2020. (Scopus)
- Vikram K. and Sumit S., "Assessment of Spring Potential for Sustainable Agriculture: A Case Study in Lesser Himalayas", Applied Engineering in Agriculture, Transactions of the ASABE. 36(1): 11-24. 2020 DOI: 10.13031/aea.13520. (SCI)
- **Vikram K.**, "A study of travel time for different open channels", Journal of The Institute of Engineers (Series A), 101(2): 399-407, Springer, 2020. DOI: 10.1007/s40030-020-00439-3. (Scopus)
- Manish K., Prabhat S., Arun L., **Vikram K.** "Adsorptive properties of cation added Hydrous Bismuth Oxide on nitrate sorption". Journal of Water Chemistry and Technology, 41(9): 283–291, 2019. DOI: 10.3103/S1063455X19050035 (SCI)
- Aliva N., Sumit S., Vijay J., Anupma S., **Vikram K.**, "Understanding Plot-Scale Hydrology of Lesser Himalayan Watershed A Field Study and HYDRUS-2D Modeling Approach", Hydrological Processes, 32(9): 1254-1266, 2018. DOI: 10.1002/hyp.11499. (SCI)
- Vikram K. and Sumit S., "Evaluation of spring discharge dynamics using recession curve analysis: a case study in data-scarce region, Lesser Himalayas, India". Sustainable Water Resources Management, 4(3), 539-557. 2018. DOI: 10.1007/s40899-017-0138-z. (SCI)
- Shanu, **Vikram K** and Sandeep, "A Classed Approach towards Rainfall Forecasting: Machine Learning Network", International Journal of Swarm Intelligence, 3(4): 276–289, 2018. DOI: 10.1504/IJSI.2017.10008892.
- Vikram K., Shanu, Jahangeer, "Statistical Distribution of Rainfall in Uttarakhand, India". Applied Water Science. 7(8), 4765–4776, 2017. DOI: 10.1007/s13201-017-0586-5. (SCI)
- Aamir I. S., Sumit S., Mehraj U. D. and **Vikram K.**, "Land-Use/Land-Cover Change Detection and Analysis in Aglar Watershed, Uttarakhand". Current Journal of Applied Science and Technology, 24(1): 1-11, 2017. DOI: 10.9734/CJAST/2017/36019.
- Manvendra S., **Vikram K.**, Atul R., Dikshit P.K. S. and Dwivedi S.B., "Spatial distribution of the suspended sediment of river Ganga at Varanasi, U.P., India". International Journal of Earth Sciences and Engineering, 10(3):533-540, 2017. DOI:10.21276/ijee.2017.10.0310.
- Vikram K., Jahangeer, Padm N. T. and Shaktibala, "Comparative study of soil physical characteristics of Jaipur district, Rajasthan". African Journal of Environmental Science and Technology, 11(1):45-55, 2017. DOI:10.5897/AJEST2016.2200.
- Vikram K., Sumit S, "Estimation of Uncertainties in Stage-Discharge Curve for an Experimental Himalayan Watershed". AGU Fall Meeting Abstracts. 2016, adsabs.harvard.edu/abs/2016AGUFM.H43J1616K. (SCI- Conference)
- Manvendra C., **Vikram K.**, Dikshit P. K. S. and Dwivedi S. B., "Comparison of Discharge Data Using ADCP and Current Meter" International Journal of Advances in Earth Science, 3(2):81-86, 2014.

Papers in National Journal (2)

- Jahangeer, Shaktibala, Pankaj G. and **Vikram K.**, "Quantitative Risk Assessment of L.P.G. Bottling Plant", Anusandhan-AISECT Journals of Science, Engineering & Applied Science, 2017, 6(11):1118-1126.
- Shanu, **Vikram K.** and Atul K., "An Efficient Algorithm for Modeling and Estimation of Ground Water Level Fluctuation", Journal of Indian Water Resources Society, 2015, 35(4):7-13.

Participation in International conference (10)

- Vikram Kumar, Prabhat K.S.D. and Shaktibala, "Review of Evapotranspiration methodologies", IWA Water and Development Congress & Exhibition 2019. **Colombo, Sri Lanka**
- Sumit S. & **Vikram K.**, "Application of High-Frequency Spring Discharge Data in the Himalayan Region (IHR)", *International Conference on Sustainable Water Management*, ISB, Mohali, **Chandigarh**, 10-11- December 2018.

- Vikram K., Shaktibala, Prabhat K.S.D., "Water Resources Status in Bihar (India): Current and Future Challenges and Research Direction", Water Security and Climate Change Conference, (WSCC 2018). Narobi, Kenya, December 03-05, 2018.
- Vikram K., Sumit S., "Optimal crop planning under the constraint of area and water demand using multi-objective programming", American Society of Agricultural and Biological Engineers (ASABE-18), Hyderabad, India, October 03-06, 2018.
- Shaktibala, Pankaj G, Jahangeer, **Vikram K**, "*Analysis and Review on Drought in Udaipur District of Rajasthan*", 25th International Conference on Researches in Science and Technology (ICRST), **Kuala Lumpur, Malaysia**, 17-18 Nov 2017,
- Vikram K. and Sumit S., "Morphometric Analysis of lesser Himalaya: a case study of Aglar watershed", HYDRO International 2016, 21th International Conference on Hydraulics, Water Resources and River Engineering, Pune India, 08-10 December 2016.
- Atul K. R., **Vikram K.**, Manvendra S. C., "*Rainfall and Temperature Trends in Varanasi, Uttar Pradesh*", *Eco Summit-2016*, **France**. 29 August 1 September 2016.
- Shaktibala, Jahangeer and **Vikram K.**, "Quantitative Risk Assessment of LPG Bottling Plant", Global Enviro Care Summit, organized by R.L.E.K. Foundation and W.F.B. Standing Committee on Environment Bangkok, Thailand, July 2016.
- Vikram K. and Sumit S., "Analysis of Spring Discharge in the Lesser Himalaya: A Case Study of Mathamali Spring", International Conference on Water, Environment, Energy and Society, Bhopal, India, 15-18 March 2016.
- Ravi P. T., Pandey K.K., Atul K. R., **Vikram K.**, Nawnit K., "Comparison of Time Variation of Local Scour near T-Shape Spur Dyke at 30 & 60 Degree", HYDRO 2015 International, IIT Roorkee, **Roorkee**, December 17-19, 2015.
- Sumit S. and Vikram K., "Developing an Instrumented Watershed in the West Himalayas, India: Need and Challenges for Hydrological Sciences", ASABE Annual International Meeting, ASABE-15, New Orleans, Louisiana, U.S. 26-29, July -2015.

Papers in National conference (6)

- Vikram K., "Annual average rainfall distribution in Bihar", Recent Advances in Civil Engineering, NIT Patna, Patna, June 6-7, 2019
- Vikram K., Manvendra S. C., Atul K. R., Shaktibala "Overview on Sediment Issues" National Conference on Water Resources & Hydropower-2016, organized by UPES, Dehradun, 17-18 June, 2016.
- Vikram K., Saurabh S., Nikita S. and Atul K. R., "Change in Land Cover Pattern in Ramgarh Dam", National Conference on Open Source GIS: Opportunities and Challenges, I.I.T. B.H.U., Varanasi, October 9-10, 2015.
- Sumit S., **Vikram K.** and Raushan K., "Static and Dynamic Response of Hydrologic Characteristics on Spring Discharge in the Tehri Garhwal region of Uttrakhand" FFCSWR-2014, organized by ICAR, **Dehradun** March 22-24, 2014.
- Vikram K., Pankaj C., Atul K. R., "Effects of Climate Change on Water Resources", National Seminar organized by department of Farm Engineering, IAS, BHU, Varanasi, January 14-15, 2011. Pg. 235-251.
- Vikram K., Bikram P. and Pankaj C., "Global Warming and Its Effects on Water Resources-India", National Seminar on Global warming and its effects on water resources, Graphic Era University, Dehradun. Dec 03-04, 2010.

M. Tech. THESIS SUPERVISION (1)

• Application of advanced cementitious material for sustainable infrastructure by Henry Nyekeni Vic Echikwa - 2018

AWARDS & REORGANIZATIONS (13)

- Focus Area Science Technology Summer Fellowship, by Indian Academy of Sciences, Bengaluru, India, 2020.
- Young Scientist Award, by VDGOOD Professional Association, Hyderabad, India, 2020.
- Aquatec Equipment Awards 2019, by Aquatec Group, U.K., 2019 for carrying out the research project on HEC-RAS.
- Young Scientist by Science and Engineering Research Board, DST, Govt. of India, October 2019.
- Young Faculty in Engineering by Venus International Foundation, June 2019.
- Academic Leadership Award by International Business Academic Excellence Award team, 2019.
- Young Researcher Award, Conferred in London (UK) during International Conference (ICACTM 2019), April-2019.
- Student Travel Grant, by American Society of Agricultural and Biological Engineers (ASABE) October 2018.
- Deutscher Akademischer Austausch Dienst (DAAD) Fellow, Govt. of Germany for Summer School-2015, Germany, (2015).
- Ministry of Human Resource Development (MHRD), Govt. of India fellowship for Ph.D. (2013-2017) and M. Tech. (2009-2011).
- Department of Science and Technology (**DST**)- Jaipur, awarded **research project** on Seismic Isolation Devices, (2011-12).
- Gold medal (twice) in National sports meet at Bengaluru and Jabalpur, India, (2009 & 2010).
- First rank in the essay competition, Pratibha-2006, TSVP, University College of Engineering, Kota (2006).

PROFESSIONAL MEMBERSHIPS

- International Water Association, Member Since 03 December 2019, Member No. 1620207
- International Association of Hydrological Sciences (IAHS), France, Member No. 13425
- European Water Resources Association (EWRA) 15081801.
- Indian Association of Hydrologist (IAH), India, Life Member, LM-1793
- Indian Water Resources Society (IWRS), India, Life Member, LM-13-7426
- International Association of Engineers (IAE), Member No. 138737
- International Water Resources Association (IWRA), Member ID: 6198
- Nordic Association of Hydrology (NAH)
- World Association for Scientific Research and Technical Innovation (WASRTI), Life Member M16102

- Certificate Course on Backyard Meteorology: The Science of Weather from Harvard University. 2020.
- 5 days International Virtual Workshop on *Climate Change Impact on Water Resources Systems*, NIT Silchar, 28 Sept 02 Oct 2020.
- 3 Week online certificate program on Hydro meteorological and Extreme Events Disaster Risk Management, 1-21 June, 2020.
- Short term training program on Environmental Sustainability, Organized by Bakhityarpur College of Engg. Patna, 25-29 May 2020.
- 7 days' live webinar on *QUALITY ARTICLE WRITING TIPS AND TRICKS* organized by M.G.R. Educational and Research Institute, Chennai. 22-28 April 2020.
- TEQIP-III Sponsored One Week Online FDP on **Recent Advances in Civil Engineering** organized by Civil & Environmental Engineering Department, VJTI Mumbai 2-7 June 2020.
- Three Day International Webinar on **Computational Trends and Applications in Civil Engineering** organized by JSS Academy of Technical Education Noida, 8-10 June 2020.
- Professional Development Course on Sustainable Management of Groundwater Resources, 3-7 September 2019. Patna Bihar
- IUKWC Workshop on Safe & Sustainable Technologies & Strategies for Integrated Freshwater Resource Management, 25 28 June 2019.
- Summer Training Program on Advanced Pedagogy and Digital Tools, organized by IIT Kanpur, Kanpur, 10 -14 June 2019.
- Faculty Development Program, on **Research Methodology**, Gaya College of Engineering, Gaya January 2019.
- Emerging Hydrometric Techniques for Discharge Estimation and Rating Curve Development, GIAN Workshop, organized by Department of Hydrology, IIT Roorkee, Roorkee, 03 -08 April 2017.
- Workshop: *Challenges in Irrigation Management for Food Security*, Indian Water Resources Society, Roorkee, 26-27 November 2016.
- GIAN Training course: BASIN/HSPF, organized by Department of Hydrology IIT Roorkee, Roorkee, 06 -14 June 2016.
- Certificate Course on Big Data: Mathematical Modelling from Queensland University of Technology, Australia. 2016
- Application of Isotopes in Hydrology and Water Resources, Training, organized by NIH, Roorkee, 29 February 04 March 2016.
- *Flood Risk Mitigation and Management*, Training course, jointly organized by National Institute of Disaster Management, New Delhi and National Institute of Hydrology, Roorkee, 07 -11 September 2015.
- Training course: *Integrated Catchment Modelling*, organized by National Institute of Hydrology, Roorkee, 09 -13 February 2015.
- National workshop: *Advanced Soft Computing Techniques in Hydrology and its Application*, organized by the National Institute of Hydrology, Roorkee, 27 November-02 December 2014.
- National Workshop: *Recent Developments in Design and Construction Techniques of Brick Masonry Buildings*, organized by Department of Civil Engineering, IIT BHU, Varanasi, 3-4 March 2012.

ACHIEVEMENTS

- **Topper** in M. Tech. Civil Engineering branch and passed with an **honors** degree, 2011.
- Class Representative as well as Training and Placement Representative, Civil Engineering, 2009-2010, IIT BHU, Varanasi.
- Certificate of **excellence** in reviewing by Asian Soil Research Journal and Applied Journal of Science and Technology.
- Silver medalist thrice in State level sports meets in Volly ball and Kho Kho.
- Worked as a social worker for **BHARAT SCOUT & GUIDE** Federation.

COURSES TAUGHT

PG: Engineering Hydrology

UG: Fluid Mechanics, hydrology, Hydraulics, and Open Channel Flow, Building Material and Construction, Engineering Geology.

INFRASTRUCTURE AND COURSE DEVELOPMENT

- Established the **Hydrology Research Laboratory**, Gaya College of Engineering, Gaya, Bihar (**TEQIP-III**, MHRD, Sponsored)-2019.
- Member syllabus review committee for Civil Engineering Aryabhatta Knowledge University Patna.

SOFTWARE SKILLS

Software Skills: Arc-GIS, HEC-HMS, BASIN, MATLAB, Python, R, SWAT, SWDESH.

REFERENCES (2)

- 1. **Dr. Sumit Sen,** Associate Professor, Department of Hydrology and Associated Faculty, Centre of Excellence in Disaster Mitigation and Management, Indian Institute of Technology Roorkee, Email: sumit.sen@hy.iitr.ac.in Contact: +91-9457449522
- 2. **Prof. (Dr.) Prabhat Kumar Singh Dikshit,** Professor, and Head, Department of Civil Engineering, Indian Institute of Technology,(Banaras Hindu University), Varanasi-221005, Email: pksdikshit.civ@itbhu.ac.in, Contact: +91- 8004929356

Place: Gava Dr. Vikram Kumar