

## Dr. Dharmendra Kumar Jigyasu

**Ph. D.** (*Environment & Ecology*)

**Scientist -C**

*Host Plant Protection, Agronomy/ Soil Science Section*

Central Muga Eri Research & Training Institute

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### Educational Qualification

- M. Sc. in Environmental Science from B. B. A. University (A Central University), Lucknow, U.P. (2008)
- M. Phil. in Environmental Science from Bundelkhand University, Jhansi, U.P. (2009)
- Ph. D. in Environmental Science from University of Lucknow, Lucknow, U.P. (2016)  
Title of Ph. D.: “*Mobilization of arsenic and other trace elements from Gomati River Basin of Ganga Alluvial Plain, northern India*”. Under the Supervision of Prof. N. L. Chhabra and Co-supervision of Prof. Munendra Singh, Department of Geology, University of Lucknow, Lucknow, U.P., India.

### Projects

- Impact assessment of petroleum crude oil on Muga Silkworm (*Antheraea assamensis* Helfer) and its host plants in Assam- *Principal investigator*
- Studies on population dynamics of Reduviid bug (*Sycanus collaris* Feb.) (Hemiptera: Reduviidae) in Muga ecosystem and its control- *Co-investigator*
- Standardization and Popularization of Treated Bamboo Products in Ericulture- *Co-investigator*
- Soil Health Cards for Sericulture Farmers of Assam, Meghalaya, Manipur, Mizoram, Tripura, Nagaland, Arunachal Pradesh and Sikkim- *Co-investigator*
- Genetic enhancement of Castor (*Ricinus communis* L.) germplasm as a source material for development of productive perennial varieties- *Co-investigator*

### Awards

- UGC-Junior Research Fellowship (JRF) as Rajiv Gandhi National Fellowship (2010)
- UGC- Junior Research Fellowship (JRF) and National Eligibility Test (NET) (2011 and 2012)

### Certificate

- N.C.C. “B”
- Training Course on “*Integrated Catchment Modelling (ICMOD-2015)*”, from National Institute of Hydrology, Roorkee, Uttarakhand

### Membership

- Lifetime membership (1807) in *National Environmental Science Academy, New Delhi, India*
- Lifetime membership (2028) in *Indian Association of Soil & Water Conservationists, Dehradun, Uttarakhand, India*

## Research Specialization

Environmental Conservation; Environmental Pollution; Environmental Geochemistry

## Conferences, Workshops and Seminars

### Oral Presentation (07)

- ✓ 4<sup>th</sup> International Congress of Environmental Research at Surat (Gujarat), December 15-17, 2011 on entitled “*Arsenic in groundwater of central Ganga Alluvial Plain, northern India: distribution and controlling factors.*”
- ✓ National Conference on Geology and Society & Training Programme on Disaster Management, February 29- March 01, 2012 in the Department of Geology University of Lucknow on entitled “*Seasonal Variation in Dissolved Arsenic Concentration of Gomati River Water, Ganga Alluvial Plain, northern India.*”
- ✓ International Conference on Environment and Human Health, National Environmental Science Academy (NESA), New Delhi, India, 28-29 November, 2012 on entitled “*Seasonal Variation of Dissolved Arsenic Concentrations in Gomati River, Ganga Alluvial Plain, northern India.*”
- ✓ The International Humboldt Kolleg on Management of Water, Energy and Bio-resources in Changing Climate Regime: Emerging Issues and Environmental Challenges (IHK2013) in the School of Environmental Sciences, Jawaharlal Nehru University, New Delhi on February 8-9, 2013 on entitled “*Seasonal Variations in Dissolved Arsenic Concentration and Flux of the Gomati River, Ganga Alluvial Plain, northern India*”.
- ✓ National Conference on Earth Sciences in India: Challenges and Emerging Trends in the Department of Earth Sciences, Indian Institute of Technology, Roorkee, India, November 7-9, 2013 on entitled “*Mobility of Trace Elements in the Gomati River Basin of the Ganga Alluvial Plain, northern India*”.
- ✓ Fifth International Conference on Plants & Environmental Pollution (ICPEP-5) in the National Botanical Research Institute, Lucknow (India), 24-27 February, 2015 on entitled “*High Mobility of Aluminium and its Implications to Human Health in Gomati River Basin, Ganga Alluvial Plain, northern India*”.
- ✓ Gomati Yatra and National Seminar on Rejuvenation of River Gomti: Past, Present and Future (GY&NSRRG)-2015) in the Babasaheb Bhimrao Ambedkar University, Lucknow, India, 9-11 May, 2015 on entitled “*Dynamics of Phosphorus Distribution in the Gomati River Basin: Anthropogenic Elucidation*”.

## Research Publications

### Abstract/Souvenir (13)

- **Jigyasu, D. K.,** Srivastava, N., Singh, M., Singh, S. & Chowdhary, A. K. (2011). Arsenic in groundwater of central Ganga Alluvial Plain, northern India: distribution and controlling factors. *4<sup>th</sup> International Congress of Environmental Research at Surat (Gujarat)*, pp-395.
- **Jigyasu, D. K.,** Kuvar, R., Singh, M. and Chhabra, N. L. (2012). Seasonal variation in dissolved arsenic concentration of Gomati River Water, Ganga Alluvial Plain, northern India. *National Conference on Geology and Society & Training Programme on Disaster Management, Department of Geology University of Lucknow*, pp-93.
- Srivastava, N., **Jigyasu, D. K.,** Singh, M., Singh, S. and Chowdhary, A. K. (2012). Groundwater quality assessment of Lucknow in Ganga Alluvial Plain, Northern India.

*Fifth International Groundwater Conference (IGWC-2012), December 18-21, 2012, Aurangabad, Maharashtra, India.*

- **Jigyasu, D. K.,** Kuvar, R., Singh, S., Singh, M. and Singh, I. B. (2013). Mobility of Trace Elements in the Gomati River Basin of the Ganga Alluvial Plain, northern India. *National Conference on Earth Sciences in India: Challenges and Emerging Trends in the Department of Earth Sciences, Indian Institute of Technology, Roorkee, India*, pp-36.
- Kuvar, R., **Jigyasu, D. K.,** Singh, S., Shukla, U. K., Singh, M. and Singh, I. B. (2013). Chemical weathering processes in the Ganga Alluvial Plain: a case study of Gomati River Basin. *National Conference on Earth Sciences in India: Challenges and Emerging Trends in the Department of Earth Sciences, Indian Institute of Technology, Roorkee, India*, pp-52.
- **Jigyasu, D. K.,** Kuvar, R., Srivastava, N., Singh, S. and Singh, M. (2014). High Mobility of Aluminium and its Implications to Human Health in Gomati River Basin, Ganga Alluvial Plain, northern India. *Expert Meet and Conference on Climate Change and Environmental Sustainability: Records from Poles to Tropics*. Centre of Advanced Study in Geology, University of Lucknow, Lucknow. 9-10 September, 2014.
- **Jigyasu, D. K.,** Srivastav, N., Singh, I. B., Singh, M. and Singh, S. (2015). High Mobility of Aluminium and its Implications to Human Health in Gomati River Basin, Ganga Alluvial Plain, northern India. *Fifth International Conference on Plants & Environmental Pollution (ICPEP-5)*. National Botanical Research Institute, Lucknow (India). 24-27 February, 2015.
- **Jigyasu, D. K.,** Singh, A., Srivastava, N., Singh, S., Singh, S., Singh, I. B. and Singh, M. (2015). Dynamics of Phosphorus Distribution in the Gomati River Basin: Anthropogenic Elucidation. *National conference on status of land resources: challenges and solutions with special reference to U.P.* 16 September, 2015.
- **Jigyasu, D. K.** (2016). Estimation of water footprint of nation intended for consumption patterns of water resources. National Seminar on “*Socio-Economic Impact of Hazardous Metal Contamination in drinking Water Resources*” organized by Government Girls’ P.G. College, Ghazipur and Indian Council of Social Sciences, New Delhi from 11-12 February, 2016, pp4.
- **Jigyasu, D. K.,** Singh, S., Rajkhowa, G. (2016). Community based conservation of Muga Silkworm desired in Northeast India. National Seminar on “*Problem & Prospects of Muga and Eri Sectors*” organized by Central Muga Eri Research & Training Institute, Lagdoigarh, 25-26 February, 2016, pp93.
- Singh, S., **Jigyasu, D. K.,** Rajkhowa, G., Kumar, R. (2016). Irradiation can be a technology based innovative programme in the development of sericulture industry in India. National Seminar on “*Problem & Prospects of Muga and Eri Sectors*” organized by Central Muga Eri Research & Training Institute, Lagdoigarh, 25-26 February, 2016, pp113.
- Singh, A., **Jigyasu, D. K.,** Singh, S., Singh, S., Singh, M. (2016). Occurrence and Cycling of Mercury in Lucknow Groundwater of Ganga Alluvial Plain, Northern India. *9th International Association of Hydrological Sciences (IAHS) Groundwater Quality Conference (GQ16)* 25- 27 July, 2016 Shenzhen, China.
- Singh, A., **Jigyasu, D. K.,** Singh, S., Singh, S., Singh, M. (2016). Environmental Implications of Fluvial Cycling of Imported Mercury in Gomati River Basin, Ganga

Alluvial Plain, Northern India. 35<sup>th</sup> International Geological Congress, 27<sup>th</sup> August to 4<sup>th</sup> September, 2016, Cape Town, South Africa.

### Refereed Journal/ Conference proceeding

- DK Jigyasu, R Kuvar, N Srivastava, S Singh, IB Singh, M Singh (2015). High mobility of aluminium in Gomati River Basin: implications to human health, *Current Science*, 434-438
- Singh, I. B., Sahni, A., Jain, A. K., Upadhyay, R., Parcha, S. K., Parmar. V., Agarwal, K. K., Shukla, S., Kumar, S., Singh, M. P., Ahmad, S., Jigyasu, D. K., Arya, R. and Pandey S. (2015). Post India-Asia collision sedimentation (Indus Basin) in Ladakh, India: Implications for the evolution of the northern margin of Indian Plate. *Journal of the Palaeontological Society of India*, 60(2): 97-142.
- Jigyasu, D. K., Kuvar, R., Singh, S., Singh, S., Chowdhary, A. K. & Singh, M. (2014). Seasonal Variations in Dissolved Arsenic Concentration and Flux of the Gomati River, Ganga Alluvial Plain, northern India. (Eds.) Raju, N. J., Gossel, W., Ramanathan, A. L. and Sudhakar, M., Management of water, energy and bio-resources in the era of climate change: Emerging issues and challenges. Springer, ISBN: 978-93-81891-06-3, pp-82-93.
- Jigyasu, D. K., Kuvar, R., Shahina, Singh, M., Singh, I. B. and Singh, S. (2014). Geochemical processes controlling the mobilization of arsenic distribution in the Ganga Alluvial Plain. In: "One Century of the Discovery of Arsenicosis in Latin America (1914–2014) As 2014." Interdisciplinary Book Series: —Arsenic in the Environment—Proceedings. (Eds.). M. I. Litter, H. B. Nicolli, M. Meichtry, N. Quici, J. Bundschuh, P. Bhattacharya & R. Naidu Series Editors: J. Bundschuh & P. Bhattacharya. CRC Press Taylor & Francis Group LLC, ISBN 978-1-138-00141-1, 29–30.
- Jigyasu, D. K., Kuvar, R., Shahina, Singh, P., Singh, S., Singh, I. B. & Singh, M. (2014). Chemical Weathering of Biotite in the Ganga Alluvial Plain. *Current Science*, 106 (11): 1484-1486.
- Kumar A, Subrahmanyam G, Mondal R, Cabral-Pinto MMS, Shabnam AA, Jigyasu DK, Malyan SK, Fagodiya RK, Khan SA, Yu Zhi-Guo,(2021). Bio-remediation approaches for alleviation of cadmium contamination in natural resources. *Chemosphere* 268, 128855.
- Raju A, Singh A, Srivastava N, Singh S, Jigyasu DK, Singh M, (2019). Mapping human health risk by geostatistical method: a case study of mercury in drinking groundwater resource of the central ganga alluvial plain, northern India. *Environmental monitoring and assessment* 191 (2), 1-16.
- Kumar A, Jigyasu DK, Subrahmanyam G, Mondal R, Shabnam AA, Cabral-Pinto MMS, Malyan SK, Chaturvedi AK, Gupta DK, Fagodiya RK, Khan SA, Bhatia A, (2021). Nickel in terrestrial biota: Comprehensive review on contamination, toxicity, tolerance and its remediation approaches. *Chemosphere*, 129996.
- Jigyasu DK, Singh M, Singh S, Singh S, Singh IB, (2020). Trace element mobility, regional significance and global implication of Gomati river basin, northern India. *SN Applied Sciences* 2 (8), 1-13.

- Siddiqui S, Singh S, Jigyasu DK, Singh IB, Singh S, Singh M, (2017). Dissolved Barium Concentration and Flux in Gomati River of Ganga Alluvial Plain, Northern India. *Indian Journal of Geosciences* 71 (3), 1-10.
- Singh S, Jigyasu DK, Roy D, Shabnam AA, Das R, (2019). Feeding Behaviour of Two Important Predator Bugs *Eocanthecona furcellata* Wolff and *Sycanus collaris* Fabricius in Muga Ecosystem. *Res. Jr. of Agril. Sci.* 10(1): 185-188.

Date: March, 2021  
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