



## Scientist - F

# Mr. C. P. Kumar

**Name:** Mr. C. P. Kumar

**Designation:** Scientist 'F'

**Office Address:** National Institute of Hydrology  
Jal Vigyan Bhawan  
Roorkee-247667 (Uttarakhand)

**Office Hours:** 0900 Hrs to 1800 Hrs

**Phone Number:** +91-1332-249208 (Office)

**Email Address(es):** [cpk@nih.ernet.in](mailto:cpk@nih.ernet.in) , [cpkumar@yahoo.com](mailto:cpkumar@yahoo.com)

**Personal Home Page:** <http://www.angelfire.com/nh/cpkumar/>



### Education:

- B.Sc.Engg.(Civil) from Aligarh Muslim University, Aligarh
- M.E.(Hydraulic Engg.) from University of Roorkee (now IIT), Roorkee

### Professional Experience:

- Scientist 'B' - 22.11.1985 to 18.08.1991
- Scientist 'C' - 19.08.1991 to 18.08.1997
- Scientist 'E1' - 19.08.1997 to 01.07.2009
- Scientist 'F' - 02.07.2009 till date

### Areas of expertise:

- Groundwater Hydrology

### Awards:

- The Certificate of Merit for 1996-97 by The Institution of Engineers (India) for technical paper entitled "*Prediction of Evaporation Losses from Shallow Water Table using a Numerical Model*".

## Research Interests:

- Assessment of Groundwater Potential
- Saline Water Intrusion in Coastal Aquifers
- Numerical Modelling of Unsaturated Flow
- Groundwater Flow and Contaminant Transport
- Management of Aquifer Recharge
- Impact of Climate Change on Groundwater

## Recently Published Papers:

- 
- Kumar, C. P. (2001), "*Simulation of Sea Water Intrusion and Tidal Influence*", ISH Journal of Hydraulic Engineering, Volume 7, No. 1, March 2001, pp. 1-11.
- 
- Kumar, C. P., B. K. Purandara and B. Soni (2001), "*Variation of Soil Moisture Characteristics in Malaprabha and Ghataprabha Sub-basins*", Hydrology Journal, Indian Association of Hydrologists. Roorkee, Volume 24, No. 1, March 2001, pp. 27-36.
- 
- Kumar, C. P., Digamber Singh and Sanjay Mittal (2001), "*Determination of Saturated Hydraulic Conductivity in Upper Part of Hindon River Catchment*", Hydrology Journal, Indian Association of Hydrologists, Roorkee, Volume 24, No. 2, June 2001, pp. 55-62.
- 
- Kumar, C. P., Sanjay Mittal and S. L. Srivastava (2001), "*Soil Moisture Retention Characteristics at RD 838 of I.G.N.P. Stage-II*", Journal of Applied Hydrology, Association of Hydrologists of India, Vol. XIV, No. 2 & 3, April & July, 2001, pp. 17-21.
- 
- Kumar, C. P., Vijay Kumar and Vivekanand Singh (2001), "*Soil Moisture Characteristics in Upper Part of Hindon River Catchment*", Journal of Applied Hydrology, Association of Hydrologists of India, Vol. XIV, No. 4, October 2001, pp. 1-9.
- 
- Kumar, C. P. (2001), "*Common Ground Water Modelling Errors and Remediation*", Journal of Indian Water Resources Society, Volume 21, Number 4, October 2001, pp. 149-156.
- 
- Kumar, C. P. and S. M. Seth (2001), "*Derivation of Soil Moisture Retention Characteristics from Saturated Hydraulic Conductivity*", Journal of the Indian Society of Soil Science, Volume 49, Number 4, December 2001, pp. 653-657.
- 
- Kumar, C. P. (2002), "*Numerical Simulation Models for Seawater Intrusion*", Journal of Indian Water Resources Society, Volume 22, Number 3, July 2002, pp. 125-130.
- 
- Kumar, C. P. and Shilpa S. Ratnoji (2002), "*Modeling of Solute Transport in Agricultural Fields using SWIM*", Hydrology Journal, Indian Association of Hydrologists, Roorkee, Volume 25, No. 2 & 3, September 2002, pp. 21-32.
- 
- Kumar, C. P. and P. V. Seethapathi (2002), "*Assessment of Natural Ground Water Recharge in Upper Ganga Canal Command Area*", Journal of Applied Hydrology, Association of Hydrologists of India, Vol. XV, No. 4, October 2002, pp. 13-20.
- 
- Kumar, C. P. (2003), "*Conceptualisation in Groundwater Modelling*", Journal of Applied Hydrology, Association of Hydrologists of India, Volume XVI, No. 1, Jan. 2003, pp. 17-28.

- 
- Kumar, C. P. (2003), "*Estimation of Ground Water Recharge Using Soil Moisture Balance Approach*", Journal of Soil and Water Conservation, Soil Conservation Society of India, Volume 2, No. 1 & 2, June 2003, pp. 53-58.
- 
- Kumar, C. P. (2003), "*Pitfalls and Sensitivities in Groundwater Modelling*", Journal of The Institution of Engineers (India), Civil Engineering Division, Volume 84, August 2003, pp. 116-120.
- 
- Kumar, C. P. (2003), "*Basic Guidelines for Groundwater Modelling Studies*", ISH Journal of Hydraulic Engineering, Volume 9, No. 2, September 2003, pp. 11-21.
- 
- Kumar, C. P. and B. K. Purandara (2003), "*Modelling of Soil Moisture Movement in a Watershed using SWIM*", Journal of The Institution of Engineers (India), Agricultural Engineering Division, Volume 84, December 2003, pp. 47-51.
- 
- Kumar, C. P. (2004), "*Constraints in the Numerical Modelling of Salt Water Intrusion*", Journal of Soil and Water Conservation, Soil Conservation Society of India, Volume 3, No. 3 & 4, December 2004, pp. 185-195.
- 
- Kumar, C. P. (2006), "*Groundwater Flow and Contaminant Transport Models: An Overview*", Journal of Applied Hydrology, Association of Hydrologists of India, Volume XIX, No. 1 & 2, January & April 2006, pp. 94-110.
- 
- Kumar, C. P., A. G. Chachadi, B. K. Purandara, Sudhir Kumar and Raju Juyal (2007), "*Modelling of Seawater Intrusion in Coastal Area of North Goa*", Water Digest, Vol. II, Issue 3, September-October 2007, pp. 80-83.
- 
- Kumar, C. P. and Sanjay Mittal (2008), "*Soil Moisture Retention Characteristics and Hydraulic Conductivity for Different Areas in India in Selected States*", Journal of Soil and Water Conservation, Soil Conservation Society of India, Volume 7, No. 2, June 2008, pp. 41-45.
- 
- Kumar, C. P. and Sanjay Mittal (2010), "*Determination of Soil Hydraulic Properties in a Part of Hindon River Catchment using SOILPROP Software*", ISH Journal of Hydraulic Engineering, Volume 16, No. 2, September 2010, pp. 13-27.
- 
- Kumar, C. P. and Surjeet Singh (2012), "*Impact of Climate Change on Groundwater Resources – Status of Research Studies*", Proceedings of 3<sup>rd</sup> International Conference on Climate Change and Sustainable Management of Natural Resources, 5-7 February 2012, Gwalior.
- 
- Kumar, C. P. (2012), "*Assessing the Impact of Climate Change on Groundwater Resources*", India Water Week 2012 - Water, Energy and Food Security : Call for Solutions, 10-14 April 2012, New Delhi.

### Short Term Courses Conducted:

- Training Course on "**Software for Ground Water Data Management**" at NIH, Roorkee during the period 7-18 October, 1996.

- Workshop on "**Modelling of Hydrologic Systems**" at Hard Rock Regional Centre, NIH, Belgaum during the period 4-8 September, 2000.
- Workshop on "**Remote Sensing and GIS Applications in Hydrology**" at Hard Rock Regional Centre, NIH, Belgaum during the period 23-25 September, 2002.

### **Trainings Abroad:**

- **Hydrological Computerized Modelling System (SHE)**, Danish Hydraulic Institute, Horsholm, Denmark
- **The Modelling of Salt Water Intrusion**, National Tidal Facility, Adelaide, Australia

### **Chapters in Books:**

- Chapter on "**Ground Water Modelling**" by C. P. Kumar (In. Hydrological Developments in India Since Independence", A Contribution to Hydrological Sciences, National Institute of Hydrology, Roorkee, 1992, pp. 235-261)
- Self instructional Course Material on "**Surface Water and Ground Water Resources**" by C. P. Kumar and Rakesh Kumar (School of Engineering & Technology, Indira Gandhi National Open University)
- "**Comprehensive Hydrological Studies of Narmada Basin - Summary of the Studies, Conclusions and Recommendations**" by Rakesh Kumar and C. P. Kumar (National Institute of Hydrology, Roorkee, 1999, 133 p.)
- Chapter on "**Groundwater Flow Models: An Overview**" by C. P. Kumar (In. Groundwater Modelling and Management (Eds. N. C. Ghosh & K. D. Sharma), Capital Publishing Company, New Delhi, 2006, pp. 153-178)
- Chapter on "**Management of Groundwater in Salt Water Ingress Coastal Aquifers**" by C. P. Kumar (In. Groundwater Modelling and Management (Eds. N. C. Ghosh & K. D. Sharma), Capital Publishing Company, New Delhi, 2006, pp. 540-560)

### **Major Consultancy/Sponsored Projects:**

- **Hydrostatic Pressure Imbalance Study for Kayamkulam Gas Power Project, Kerala** (sponsored by NTPC Limited, New Delhi)
- **Assessment of Impact of Irrigation Application in a part of IGNP Stage II Command Area underlain by Hydrologic Barrier** (sponsored by Command Area Development, IGNP, Bikaner)
- **Estimation of Irrigation Return Flow in Lokapavani Area in Krishnarajasagar Command** (Hydrology Project)

- Hydrological and Hydrogeological Investigations to Assess Causes of Seepage from the Reservoir of Jaswant Sagar Dam in Jodhpur (Water Resources Department, Rajasthan)
- Coastal Groundwater Dynamics and Management in the Saurashtra Region, Gujarat (Hydrology Project - II)

### Memberships in Professional Societies:

- |  |   |               |
|--|---|---------------|
| • The Institution of Engineers (India)                 | : | F-016636/3    |
| • Indian Association of Hydrologists                   | : | FM-191        |
| • Indian Water Resources Society                       | : | F-2001-1106   |
| • Association of Hydrologists of India                 | : | AHI LM 51 333 |
| • The Indian Society for Hydraulics                    | : | F-19          |
| • Indian Society of Soil Science                       | : | LM/K/043      |
| • Indian Association of Soil & Water Conservationists: | : | LM-1177-K     |
| • Soil Conservation Society of India                   | : | LM-2152       |
| • Geological Society of India                          | : | F-2496        |
| • Indian Society of Applied Geochemists                | : | LM-447        |

### M.Tech./M.Sc. Thesis Guidance:

- *Prediction of One Dimensional Solute Movement in Unsaturated Medium* (Mr. Abdhesh Kumar Upadhyay, M.Tech., Applied Geophysics, 1995, University of Roorkee)
- *Simulation of Sea Water Intrusion for Cochin Coast* (Ernakulam District) (Miss Deepanjali D. Bhosale, M.Tech., Environmental Engineering, 1999-2000, K.L.E. Society's College of Engineering and Technology, Belgaum)
- *Utilisation of Saturated-Unsaturated Transport (SUTRA) Model for Goa Coast* (Miss Mayuree N. Natu, M.Tech., Environmental Engineering, 1999-2000, K.L.E. Society's College of Engineering and Technology, Belgaum)
- *Modelling of Soil Moisture Movement and Solute Transport in an Agricultural Field using SWIM* (Miss Shilpa S. Ratnoji, M.Tech., Environmental Engineering, 2000-2001, K.L.E. Society's College of Engineering and Technology, Belgaum)

### Internet Hydrology:

Creation and monitoring of the following websites and e-mail discussion groups:

**Kumar Links to Hydrology Resources** -  
<http://www.angelfire.com/nh/cpkumar/hydrology.html>

**Hydrology Forum** – <http://groups.yahoo.com/group/hydforum/>

**Hydrological Modelling Discussion Group** -  
<http://in.groups.yahoo.com/group/hydrologymodel/>

Ground Water Modelling Discussion Group - <http://groups.yahoo.com/group/gwmodel/>