CURRICULUM VITAE

Name	:	Anish Kumar
Present address and	:	3/162 Vivek Khand Gomti Nagar Lucknow
Contact numbers		India 226010
		Mobile: +91-9935625687
		Email: bansalanish77@gmail.com
Profession	:	Agricultural Engineer
Date of Birth	:	02 July 1977
Nationality	:	Indian
Membership of Professional Societies:		
Indian Society of Agricultural Engineers (ISAE)		

Key Qualifications:

Mr. Anish Kumar has over 8 years experience in the field of Hydrological Modeling for various infrastructure areas including water resources management. As reflected in his CV, Mr. Anish has experience in the water resources field including hydraulics, hydrological modeling, primary and secondary data analysis, water balance models and model coding.

Recently, he has been involved in developing integrated Crop models for UP Irrigation department. Under this project, he was involved in developing modelling methodologies and procedures for irrigation water movement from canals and ground water, rainfall runoff transformation modelling, climate and land use data analysis, developing modelling scenarios and model coding.

Mr. Anish has an excellent knowledge of the multi-disciplinary focus of integrated water resource management and has worked on projects involving government organisations. He has worked in the developing country scenarios and applied the advanced techniques for developing multi-objective Decision Support Systems.

Recent relevant assignments include:

Water Resource Engineer,

Development of Ghagra Gomti Basin Plans and Decision Support System for UP irrigation Department.

Mar 2005-current, India

Senior Research Fellow,

Hydrological water balance modelling of rain-fed watersheds for improved irrigation management. Sponsored by NATP, ICAR, Govt of India

Jan 2002 – Feb 2005, India

Junior Scientist,

Water balance modelling of agricultural watersheds. Sponsored by DAAD, Germany and Dept of Science and Technology, Govt of India

Apr 2003 - July 2003, Germany Apr 2004 - July 2004, Germany

Education:

• Ph.D. Hydrological Modelling, Indian Institute of Technology, Kharagpur India

Ph.D. Title: Development and testing of physically based distributed Hydrologic Modelling system.

Description: the Ph.D. work includes development of modelling code in Visual C++ for physically based distributed hydrologic modelling system and development of Graphic User Interface (GUI) in Visual Basic, Collection and digitization of data and maps for two watersheds located in India and Germany, test the model code, Model calibration, validation and analysis of results. The proposed model is totally physically based, Distributed and all parameters which are physically measurable in field. The model uses Richards' Equation for flow in unsaturated zone, Saint Vanants equations for Surface and channel flow, Penman Montieth equations for Evapotranspiration and Laplace equation for ground water flow modelling.

Year: 2010

• M-Tech. Soil and Water Conservation Engineering, Indian Institute of Technology, Kharagpur India (2001).

M-Tech. Project Title: Modelling canal command using an integrated Opti-Simulation model using MIKE SHE and MIKE 11.

Description: M-Tech Project included development of Optimization-Simulation model for watershed in West Bengal. The developed model uses MIKE SHE for hydrologic simulation of watershed, MIKE 11 Simulations for Hydraulic modelling of canal system and MATLAB for optimization. The simulation works in sequence with MIKE SHE calculating deficits, MIKE 11 calculating irrigation supply and MATLAB optimizing the water allocation to minimize deficits and improve Adequacy, Equity and Dependability, for each iteration. The project includes development of intermediate programs to automate the flow of data from one model to another.

M-Tech CGPA: (8.91 / 10)

Year: 2001

• B-Tech. Agricultural Engineering, Punjab Agricultural University, Ludhiana, India (1999).

B-Tech. Project Title: Mechanization of sowing operations in cotton belt of Punjab.

Description: The project included surveying and collecting data in the study area for information on mechanization in sowing operations in Punjab. The information was collected directly from end users, i.e. farmers and suggestions were made for improvement in design of sowing machinery.

B-Tech. CGPA: (7.10 / 10)

Year: 1999

- AISSCE (+2): CBSE board , Non Medical 1994
- AISE (10): CBSE Board 1992

Experience Record: (chronologically starting from present job)

From March 2005 to date

Employer: SMEC INTERNATIONAL PTY. LTD.

Project: Ghagra Gomti Basin plans and development of Decision Support System for UPID

Position: Water Resources Engineer

Details: Client: UP Irrigation Department

Responsible for development of integrated crop model code as part of decision support system (DSS) to aid in investigating the irrigation management for its impact on Social, economical, environmental and water balance in study area. The area is 90,000 Square KM, enclosed between Ghagra and Gomti Rivers. **Tasks included:** development of Crop Model Code, Transfer of data to and From GIS, Integration of various models with main model for flow of data, Primary and Secondary Data analysis, Water resources data entry and quality review, DSS software development, calibration of water resources models, assist in preparation of Basin Management Plans, presentation of results in reports and at meetings.

From Jan 2002 to Feb 2005

Employer: Indian Institute of Technology Kharagpur, India

Project: Hydrological water balance modelling of rain-fed watersheds for improved irrigation

management.

Position: Senior Research Fellow

Details: Client: National Agricultural Technology Project, Indian Council of Agricultural

Research, Govt. of India.

Undertook the water balance studies of two agricultural watersheds located in Eastern part of India in West Bengal and Central part of India in Chhatisgarh. Tasks involved: Collection of climatic and land use data, soil and topographic maps, Digitization, Development of Physically based distributed model code, Calibration, Parameterization and validation of model, Model run, sensitivity analysis and analysis of results, Setup and Run the MIKE SHE Model for same inputs, Comparison of Model results with MIKE SHE Simulation, preparation of reports.

From April 2003 to July 2003 and April 2004 – July 2004

Employer: Institut für Hydrologie und Meteorologie, Technische Universität, Dresden Germany

Project: Water balance modelling of agricultural watersheds.

Position: Junior Scientist

Details: Client: Deutscher Akademischer Austausch Dienst (DAAD) Germany and Department

of Science and Technology (DST) Govt of India, New Delhi, India.

Undertook the water balance study of Wernersbach Watershed located 25 Km South-West of Dresden, Germany. The Rainfall-Runoff transformation process was studied by Developing physically based distributed model and Empirical Geomorphological Instantaneous Unit Hydrograph Models. Tasks involved: Collection of climatic and land use data, soil and topographic maps, Digitization, Calibration, Parameterization and validation of models, Model run, sensitivity analysis and analysis of results, preparation of reports.

International Conference Papers:

A. Kumar, A. Bhadra, N. S. Raghuwanshi, R. Singh and M.P. Tripathi. (2005) Rainfall-Runoff Modelling of a Small Agricultural Watershed using GIUH_CAL Model Proceedings of International Conference on Hydrological Perspectives for Sustainable Development (HYPESD - 2005), 23 - 25 February, IIT Roorkee, India

Bansal, A. K., Raut, A. K., Ghosh, C. M., and Srivastava, P. K. (2009). Simulation Model for Run-of-River Canal Systems. *Proceedings of the International conference on Food Secueity and Environmental Sustainability (FSES-2009)*, Dec 17-19, 2009. Indian Institute of Technology, Kharagpur, India.

Bansal, A. K., Raut, A. K. and Srivastava, P. K. (2009). "Canal Simulation Model for Conjunctive Irrigation Management". 7th International R & D Conference on Development and Management of Water and Energy Resources, Orissa, India, February 4-6

Ghosh, C. M., Raut, **A. K., Bansal**, A. K. and Banerjee, R (2009). "Overview of Degraded Agriculture in Canal Command: A Remote Sensing Approach". NRSC ISRO User Interaction Workshop, Hyderabad, India, January 28-29

Raut, A. K., Marr, A. J., **Bansal, A**. and Verma, V. K. (2008). "GIS-based Decision Support System for Conjunctive Irrigation Management in India", 11th International Riversymposium, Brisbane, Australia, September 1- 4

Countries of work experience:

Dresden, Germany India

Languages:

English- Reading, Speaking and Writing: Excellent Hindi- Reading, Speaking and Writing: Excellent Punjabi - Reading, Speaking and Writing: Excellent

Computer Proficiency:

Operating Systems: Windows 98/2000/NT/XP/Vista

Languages: C, C++, Visual C++, Visual Basic, FORTRAN and FoxPro

Application Software: MATLAB, AutoCAD, Microsoft Office suite, Map Objects

Modeling Software: MIKE SHE, MIKE 11, IQQM

Remote Sensing /GIS Software: ARC GIS and ARC Objects

Short Term Courses:

- 1) Relational database management systems using ORACLE and SQL
- 2) Object Oriented Programming Using Visual C++

Scholarships:

Ministry of Human Resources and Development, (Govt of India) Scholarship for 7 years in school (1988-1994).

Qualified GATE-1999 & GATE-2000; and recipient of GATE fellowship for M-Tech.

Certification:

I, the undersigned, certify that to the best of my knowledge and belief, this bio-data correctly describes me, my qualifications and my experience.

Anish Kumar

28 Apr 2010