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Ishadeep Khanijo

Managing Scientist | Chemical Regulation and Food Safety Sacramento +1-916-306-2686 tel | ikhanijo@exponent.com

Professional Profile

Ms. Khanijo is an environmental modeler specializing in chemical fate and transport modeling including having experience in regulatory and higher-tier water quality exposure assessments of plant protection chemicals and veterinary pharmaceuticals in surface water and groundwater. She is also experienced in watershed/national scale water quality modeling, probabilistic modeling, model calibrations and validation, inverse modeling, risk mitigation assessments using best management practices.

Ms. Khanijo has applied her environmental engineering background and environmental modeling skills in the field of chemical regulatory science for over 10 years. Her skills include expertise in various environmental and fate and transport model including ARCGIS, PEARL, MACRO, PELMO, PRZM, SWASH, SWAN, TOXSWA, KINGUI, CAKE, GENEEC, FIRST, SCIGROW, PRZM-3, PRZM-GW, EXAMS-II, LEACHM, and AgDRIFT, SWAT, APEX, RIVWQ, VFSMOD, MODFLOW, PEARLNEQ, CalEnviroScreen, AERMOD. She enjoys learning new models and applying her environmental modeling skills for problem solving and tackling unique/challenging environmental issues. Ms. Khanijo is also experienced in degradation kinetics for estimating modeling inputs.

Ms. Khanijo also has experience conducting field studies and collecting samples. Her M.S. research project involved conducting extensive field studies for evaluating performance of vegetated treatment systems used for biological treatment and control of wastewater from feedlots under the NPDES permits. During her research and working as a research assistant, she gained experience in construction and installing of flow monitoring devices and hydraulic structures such as ISCO samplers and analysis of flow data, hydrological data and water quality data (based on nutrients reduction) and use of statistical methods to evaluate environmental data.

She also has experience managing and leading projects and act as personnel manager and mentor to junior staff while working with the previous employer.

Academic Credentials & Professional Honors

M.S., Agricultural and Biosystems Engineering - Agricultural Engineering, Civil, Construction & Environmental, Iowa State University, 2008

B.Tech., Agricultural Engineering, Punjab Agricultural University, Ludhiana, India, 2004

Prior Experience

Senior Environmental Engineer, Waterborne Environmental, Inc. 2014-2015

Project Environmental Engineer, Waterborne Environmental, Inc. 2011-2013

Staff Environmental Engineer, Waterborne Environmental, Inc. 2008-2010

Graduate Research Assistant, Iowa State University 2008-2010

Professional Affiliations

Society of Environmental Toxicology and Chemistry (SETAC)

American Chemical Society (ACS)

Languages

Hindi

Punjabi

Urdu

Publications

D.S. Andersen, R.T. Burns, L.B. Moody, M.J. Helmers, B. Bond, I.K. Khanijo, C. Pederson, and J. Lawrence(2013) Impact of System Management on Vegetative Treatment System Effluent Concentrations. Journal of Environmental Management 125; (55-67). http://dx.doi.org/10.1016/j.jenvman.2013.03.046.

Presentations

Khanijo, I, A. Ritter, Cheplick, M., and Williams, M. Model the effectiveness of vegetated filter strips in reducing contaminants in feedlot runoff. Presented at SETAC Annual Meeting. Sacramento. 2018.

Khanijo, I., A. Ritter, and J. Eickhoff. Potential Impact of Modeling Assumptions and Uncertainties on Furfural Drinking Water Concentrations as Predicted by PRZM-GW. Presented at ACS National Meeting, Boston 2015.

Khanijo, I. et. al. Higher-Tier Surface Water Exposure Modeling Approach at Watershed Scale of Veterinary Pharmaceuticals Administered to Beef Cattle. Presented at ACS National Meeting, Boston 2015.

Khanijo, I. and N. Mackay. Estimation of reliable degradation kinetics parameters for complex metabolite pathways. Presented at ACS National Meeting, Denver 2011

Khanijo, I.K, Burns, R.T., Moody, L.B., Pederson, C.H., 2006. Evaluation of Cost-Effective Methods for Measuring Runoff Volume from Vegetated Treatment Areas. Annual ASABE meeting, 2006

Khanijo, I.K, Burns, R., Moody, L., Helmers, M., Lawrence, J., Pederson, C. (2007) Vegetated treatment system models: modeled vs. measured performance. International symposium on air quality and waste management for agriculture, Sep 2007, Colorado

Project Experience

Conducted a higher-tier watershed scale exposure modeling of a veterinary pharmaceutical by applying the models/knowledge of pesticide risk assessment.

Conducted higher-tier aged sorption modeling to determine aged sorption parameters for use in groundwater models.

Conducted inverse modeling with various models including PEARL, PEST, LEACHP, PRZM to calibrate field studies or derive higher-tier modeling inputs.

Additional Education & Training

Courses: Open channel flow, Modeling flow in aquifers, Flow routing, HEC-HMS, HEC-RAS, Modeling contaminants in surface water bodies, wetlands, drainage, DRAINMOD, aerobic and anaerobic wastewater treatment processes, sewer design, wastewater treatment processes and water quality modeling, QUAL2K