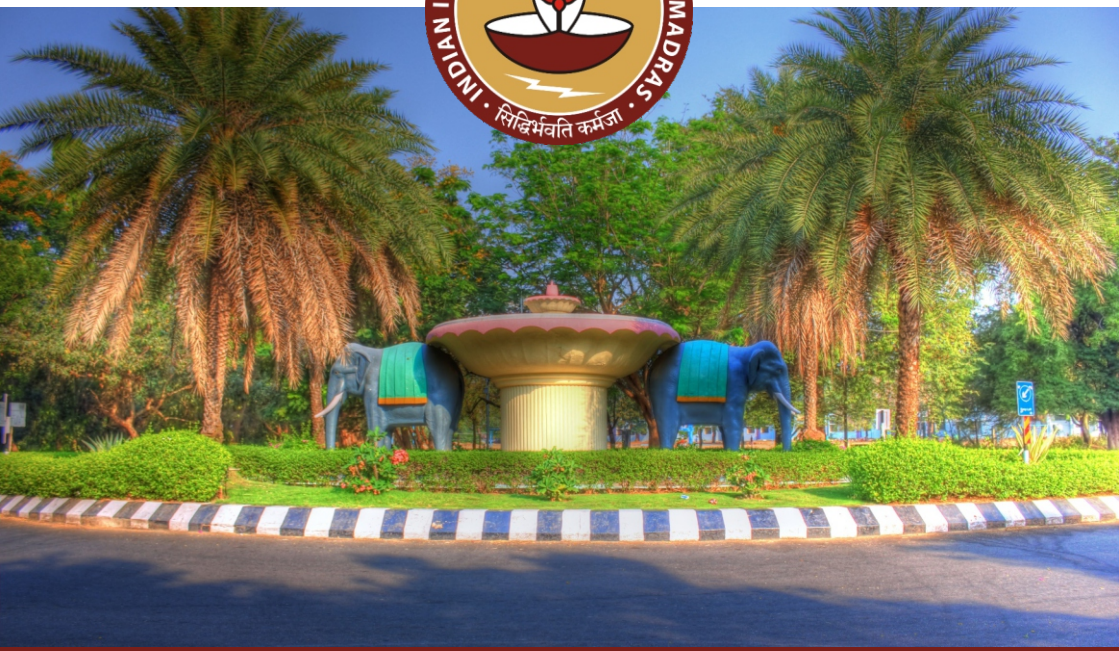
INTERNATIONAL SOIL AND WATER ASSESSMENT TOOL CONFERENCE

SWAT

CHENNAI, INDIA

JANUARY 10 - 12

2018



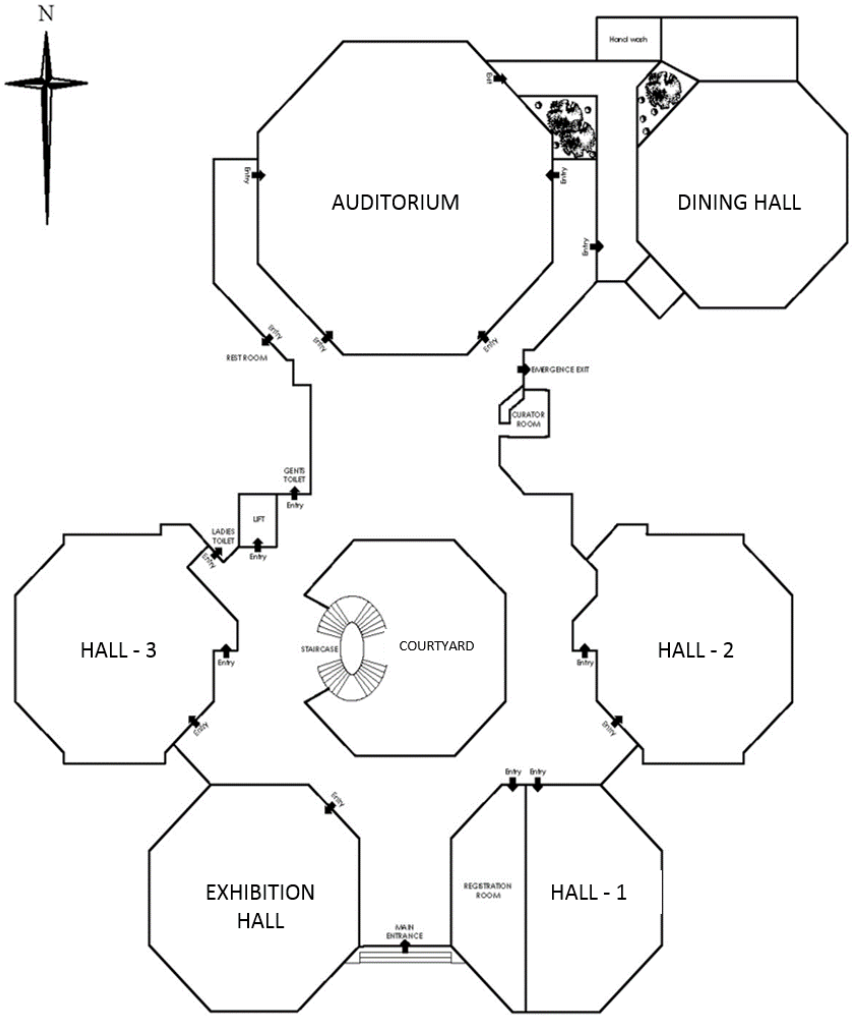
Agenda

The Soil and Water Assessment Tool (SWAT) is a public domain model jointly developed by USDA Agricultural Research Service (USDA-ARS) and Texas A&M AgriLife Research, part of The Texas A&M University System.

SWAT is a small watershed to river basin-scale model to simulate the quality and quantity of surface and ground water and predict the environmental impact of land use, land management practices, and climate change. SWAT is widely used in assessing soil erosion prevention and control, non-point source pollution control and regional management in watersheds.

swat.tamu.edu | facebook.com/swatmodel | twitter.com/swat_model

Conference Venue: IC&SR Building, IIT Madras Campus



Conference Overview (Day 1)

Time	Wednesday, January 10
8:00 - 9:00	Registration and check-in
9:00 - 10:30	Inaugural session
10:30 - 11:00	High Tea and group photo
11:00 - 12:30	A1 Special Session
12:30 - 13:30	Lunch
13:30 - 15:00	B1 Sensitivity Calibration and Uncertainty B2 Large Scale Applications B3 Hydrologic Modelling & Remote Sensing Applications B4 Climate Change Applications
15:00 - 15:30	Coffee break
15:30 - 17:00	C1 Model Development C2 Climate Change Applications C3 Sensitivity Calibration and Uncertainty C4 Hydrology
18:00 - 20:00	Relaxing time at SAARANG 2018 (The annual mega cultural festival of IIT Madras)
19:30	

Conference Overview (Day 2)

Time	Thursday, January 11
8:00 - 9:00	
9:00 - 10:30	D1 Special Session
10:30 - 11:00	Coffee break
11:00 - 12:30	E1 Sediment, Nutrients, and Carbon E2 Hydrologic Modelling & Remote Sensing Applications E3 Hydrology E4 Climate Change Applications
12:30 - 13:30	Lunch
13:30 - 15:00	F1 Poster session (Till 14:30)
	Cultural Tour to Dakshin Chitra (leaving IIT Madras campus at 14:30PM)
15:00 - 15:30	
15:30 - 17:00	
18:00 - 20:00	
19:30	Dinner gala at Dakshin Chitra

Conference Overview (Day 3)

Time	Friday, January 12
8:00 - 9:00	
9:00 - 10:30	G1 Environmental Applications G2 Climate Change Applications G3 Hydrologic Modelling & Remote Sensing Applications
10:30 - 11:00	Coffee break
11:00 - 12:30	H1 Climate Change Applications H2 Hydrology H3 Sensitivity Calibration and Uncertainty H4 SWAT Development and Application in India
12:30 - 13:30	Lunch
13:30 - 15:00	I1 Sensitivity Calibration and Uncertainty I2 Climate Change Applications
15:00 - 15:30	Coffee break
15:30 - 17:00	Closing discussions
18:00 - 20:00	
19:30	

Keynote Speaker

(Guest of Honour)

Wednesday, 10th January, 2018

Dr. Sharad K Jain

Director
National Institute of Hydrology
Roorkee, India
E- mail: skj.nihr@gov.in

Dr. Sharad K Jain is the Director of National Institute of hydrology, Roorkee, a premier Research and Development organization under the Ministry of Water Resources, River Development & Ganga Rejuvenation, Government of India. Dr. S K Jain has research, development and teaching experience of more than 35 years in the field of water resources, and has carried out several significant studies dealing with different aspects of water resources, viz., Catchment Modeling, Flow Forecasting, Planning and Management, Risk Analysis, Environmental Aspects, Water Governance, and Software Development. His primary research interests include Water Resources Planning and Management, Application of Advanced Tools such as Artificial Neural Networks, Remote Sensing, GIS, and development of Decision Support Systems.

Dr. Jain has published more than 200 technical papers in national and international journals, authored/ coauthored books, written more than 35 book chapters, articles in Encyclopedia covering various aspects of water resources and developed a web-based course under NPTEL. The books a) *Water Resources Systems Planning and Management, Elsevier* b)

Hydrology and Water Resources of India, Springer c) *Risk and Reliability Analysis, American Society of Civil Engineers (ASCE)* are well received by the hydrologic community. Dr. Jain is involved in several consultancy projects dealing with real life problems in water sector. Dr. Jain is an active member of professional societies, and is a member of various technical review committees at the national and international level such as Chairman of Expert Appraisal Committee (River Valley and Hydroelectric Projects), Ministry of Environment & Forests, Member - Sub Committee on Interlinking of Rivers; Expert Committee on "State Spatial Data Infrastructures and its Applications" of Department of Science & Technology, Task Force on Water, Scientific Advisory Council to Prime Minister (2013-14), Scientific Steering Committee of the Global Water Systems Project, University of Bonn, Germany (2009-15). He is also a recipient of scientific achievement awards for his significant contribution towards hydrologic research.

Keynote Speaker

(Special Session: A1)

Wednesday, 10th January, 2018

Dr. Philip Gassman

Associate Scientist
Center for Agricultural & Rural Development (CARD)
Iowa State University
560A Heady Hall
518 Farm House Lane
Ames, IA 50011-1054
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Dr. Philip Gassman is an Environmental Scientist in the Resource and Environmental Policy (REP) Division at the Center for Agricultural and Rural Development (CARD), Iowa State University, which he joined in 1987. His research efforts have been focused on the testing and application of environmental and Eco hydrological models, which includes supporting the integration of environmental and economic models that are used to assess policy scenario impacts for watersheds and other regions. Dr. Gassman has worked on such varied projects as analysis of the risks and benefits of herbicide use, soil erosion, soil nitrogen loss studies, and atrazine leaching in the Midwest. His research interest includes water quality impacts of alternative nutrient practices related to livestock operations, and transport of nutrients from cropland landscapes to stream systems across the U.S. Corn Belt region. Dr. Gassman has published more than 100 scientific papers in professional journals, authored/ coauthored several book chapters and conference proceedings.

Keynote Speaker

(Special Session: A1)

Wednesday, 10th January, 2018

Dr. Jeffrey G. Arnold

Agricultural Engineer
Grassland Soil and Water Research Laboratory
USDA-ARS
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Phone: (254) 770-6502
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Dr. Jeffrey G. Arnold, agricultural engineer and research leader with the U. S. Department of Agriculture (USDA) Agricultural Research Service (ARS) (Temple, Texas) is well known for his contributions to the advancement of watershed research, planning and design. In his position as a research leader with USDA-ARS, Dr. Arnold is responsible for developing models and model components to characterize, manage and protect soil and water resources, and for research and administrative leadership at the USDA-ARS Grassland Soil and Water Research Laboratory. Dr. Arnold has more than 300 scientific publications, and several conference proceedings to his credit. He is the developer of many conservation management programs including the Soil Water Assessment Tool (SWAT) used worldwide by a multidisciplinary community of scientists. Dr. Arnold has made noteworthy contributions to the advancement of soil and water engineering in teaching, research, and planning. The programs and techniques, he personally developed from his research, have proven to be significant contributions to the world's agricultural community.

Keynote Speaker

(Special Session: A1)

Wednesday, 10th January, 2018

Dr. Ashvani K Gosain

Professor of Civil Engineering
Indian Institute of Technology Delhi
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Dr. A K Gosain is a Professor of Civil Engineering in the Department of Civil Engineering, Indian Institute of Technology Delhi, New Delhi. His area of expertise includes hydrological modelling, natural resource management, environmental impact assessment, climate change and GIS technologies. Dr. Gosain has made significant contributions to tackle issues related to river basin management by integrating research, teaching and public service, and applying hydrologic models and tools that guide policy makers. Some of the salient works of Dr. Gosain include significant contribution to the NATCOM – national project undertaken by the Ministry of Environment and Forests for making the National Communication to the United Nations Framework Convention on Climate Change (UNFCCC) (http://gisserver.civil.iitd.ac.in/natcom). He has also been reviewer for AR4 and AR5 of IPCC. Dr. Gosain has served on many prestigious World Bank, ADB and European Union Projects besides a large number of national projects. He has to his credit more than 150 papers published in refereed national, international journals and conferences. Twenty students have completed their Ph.D. under his

supervision. One of the recent assignments of Dr. Gosain include the formulation of the Ganga River Basin Management Plan (GRBMP) by consortium of IITs, of which he was the Team Leader of the Water Resources Management group. He formulated the Drainage Master Plan of NCT of Delhi for the Delhi Government. He is also part of the expert committees appointed by the National Green Tribunal (NGT) to suggest solutions to deal with the ever increasing pollution levels in Yamuna and a member of the Supervisory Committee to supervise the implementation of the NGT order on Ganga.

Keynote Speaker

(Special Session: A1)

Wednesday, 10th Jan, 2018

Dr. Raghavan Srinivasan

Professor, Dept of Ecosystems & Management
1537 Texas A & M University
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Dr. R. Srinivasan, is the Director of the Spatial Sciences Laboratory at Texas A&M University, and a Texas A&M AgriLife Research scientist. Dr. Srinivasan, also a professor in the department of ecosystem science and management, has brought national and international recognition to Texas A&M over the past 25 years in the areas of spatial sciences, computer-based natural resource modeling, and land use and climate change impacts on hydrology, soil conservation, water quality and crop production. He is one of the principal developers of Soil and Water Assessment Tool (SWAT). His research and its applications have contributed to major improvements in assessment and development of watershed management systems, benefiting natural resources and sustainable agricultural production through conservation practices in the U.S. and across the globe.

Dr. Srinivasan has been instrumental in helping international research groups use SWAT to analyze the water resources across the globe. As an ambassador for SWAT, he has personally conducted more than 200 SWAT workshops, has traveled worldwide to help researchers and

development agencies apply this model to their natural resource problems, thereby making SWAT a globally acceptable hydrologic modelling tool. Dr. Srinivasan has several research publications to his credit and has received numerous awards in recognition of outstanding scientific accomplishments including the American Society of Agronomy Extension Education Materials Award in 2008, the 2012 Norman Hudson Memorial Award for contributions to soil conservation from the World Association of Soil and Water Conservation, 2014 Texas A & M AgriLIFE Research Faculty Fellow Award, 2014-2015 Regents Fellow Service Award etc.

Keynote Speaker

(Special Session: D1)

Thursday, 11th January, 2018

Dr. Karim Abbaspour

Hydrologist and Soil scientist
Swiss Federal Institute of Aquatic Science and Technology
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Dr. Karim Abbaspour is currently a senior scientist at the Swiss Federal Institute for Aquatic Science and Technology, Eawag, and leads the Soil, Groundwater, and Catchment Group. His research interests include development of system analysis tools for model calibration and uncertainty analysis, modelling flow and transport of chemicals in saturated/ unsaturated soils, watershed scale modelling of water resources, extreme weather prediction and adaptation to climate change in water management. Dr. Karim's research has benefitted the hydrologic modelling community by developing improved methods for model calibration and uncertainty analysis. He has developed several modelling related programs such as SWAT-CUP (calibration and uncertainty program) for calibration of SWAT, SUFI-2, a computer routine for parameter and uncertainty analysis for models, procedures for risk analysis of environmental projects, development of Ant Colony Optimization routine for inverse estimation of model parameters (The most downloaded paper in 2001 from the web site of Journal of Advances in Water Resources). Dr. Karim has undertaken several significant projects such as building an agro- hydrological model of the world,

Climate change analysis toolkit, landuse and climate change impact studies on water resources, coupling of SWAT and MODSIM for integrated water resources management. Dr. Karim has published more than 200 scientific papers in professional journals, authored/ coauthored several book chapters and conference proceedings.

Keynote Speaker

(Special Session: D1)

Thursday, 11th January, 2018

Dr. Nicola Fohrer

Director
Institute for Nature and Resource Conservation
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Dr. Nicola Fohrer is the Director at Institute for Nature and Resource Conservation, University of Kiel. Dr. Nicola Fohrer has over 25 years of research experience and is actively involved with national and international professional organizations. She is the Area Coordinator Water Management, INDO-GERMAN Centre for SUSTAINABILITY, whose prime focus is protection of the environment considering water resources, energy, land use, rural development and waste management. Dr. Nicola's expertise includes GIS-based modeling of water and mass balance on the micro- and mesoscale, effect of land use change on the water and mass balance of river basins, aquatic ecological investigation methods, interdisciplinary modeling of landscape functions, erosion measurements and modeling etc. She has a long-standing working experience with the SWAT model (since 1996) and hosted the first SWAT conference in Europe. Dr. Nicola has published more than 200 scientific papers in professional journals, authored/ coauthored several book chapters and conference proceedings. She serves as member and spokesperson in the DFG review board for water science, in the Leibniz senate commission for evaluation, in the Global Water Partnership as

member of the technical commission (TEC) and was chair of the scientific board of the German National Committee of IHP/HWRP of the UNESCO from 2008 to 2014. She is a recipient of scientific achievement awards and honors for her significant contribution towards hydrologic research.

Keynote Speaker

(Special Session: D1)

Thursday, 11th January, 2018

Dr. Indrajeet Chaubey

Associate Dean and Director
International Programs in Agriculture
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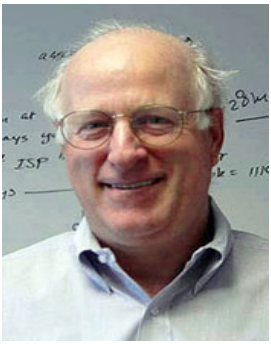
Dr. Indrajeet Chaubey is Associate Dean and Director of International Programs in Agriculture at the Purdue University, USA. He is a Professor of Ecohydrology with joint appointments in the Department of Agricultural and Biological Engineering, Department of Earth, Atmospheric, and Planetary Sciences, and the Division of Environmental and Ecological Engineering. Dr. Chaubey has made substantial contributions to improving water quality and watershed management by integrating research, teaching and public service, and developing simulation models and tools that guide decision makers. His integration of simulation modeling and innovative field research improves our understanding of various rainfall runoff and pollutant transport processes at field, stream reach, and watershed scales. His research has led to improved watershed management decisions including optimization of resource allocations and resulting water quality improvements. Dr. Chaubey has authored or coauthored more than 400 peer-reviewed journal articles, book chapters, and technical papers. He has received many awards including the ASABE ADS/ Hancor Soil and Water Engineering award, the ASABE New Holland Young Researcher award, and several ASABE

paper awards. Apart from receiving several awards for teaching, he was chosen for the Agricultural Research award in 2012, the Seed for Success award, and was named a University Faculty Scholar, all from Purdue University. He is also a member of the executive global engagement committee and several Natural Resources and Environmental Systems committees

Keynote Speaker

(Special Session: D1)

Thursday, 11th January, 2018



Dr. Peter Allen

Professor, Department of Geology
Baylor University
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Dr. Peter Allen is a Professor with the Department of Geology, Baylor University, USA. Dr. Allen has over 30 years of research experience and his research interests include Impact of urbanization on stream channels; erosion degradation and aggradation of streams, stream-groundwater interactions and water budget models, recharge mechanisms and bypass flow in clay shale terrain, and field techniques for assessment of geological processes such as sedimentation and erosion. Dr. Allen has made substantial contributions to assessment of sedimentation in rivers, floodwater structures and reservoirs, stream stability assessments, and developing models and tools that guide decision makers. Dr. Allen's research focusses on surface water hydrology and channel erosion using SWAT model applied to predict erosion and runoff, sediment budgeting of large watersheds using geomorphic assessment techniques. His research contribution helps improve our understanding of river and reservoir sedimentation, stream erosion assessment, and also watershed management decisions including restoration of rivers. Dr. Allen has authored more than 100 peer-reviewed journals and is actively involved in projects with several federal agencies and private clients.

Wednesday, January 10

8:00 – 9:00	**PARTICIPANT CHECK-IN AND REGISTRATION**	
9:00 – 10:30	**INAUGURAL SESSION** Auditorium	
9:00 – 9:05	Prayer and Lighting of Lamp	
9:05 – 9:10	Welcome Address	**Dr. Balaji Narasimhan**, IIT Madras, India
9:10 – 9:15	Felicitation address	**Prof. K. Ramamurty**, Head, Dept. of Civil Engineering, IIT Madras
9:15 – 9:25	Conference Overview	**Dr. Raghavan Srinivasan**, Texas A&M, USA
9:25 – 9:35	Brief Remarks	**Dr. Jeffrey G. Arnold**, USDA-ARS, USA
9:35 – 9:45	Presidential Address	**Prof. A. K. Mishra**, Dean (Academic Research), IIT Madras
9:45 – 10:25	Keynote Address *"Hydrologic modelling in India: Current Status and Way forward"*	**Dr. Sharad Jain**, Director, National Institute of Hydrology, India
10:25 – 10:30	Vote of Thanks	**Prof. K. P. Sudheer**, IIT Madras, India

Wednesday, January 10

10:30 – 11:00	**HIGH TEA AND GROUP PHOTO**	
11:00 – 12:30	**SESSION A1: SPECIAL SESSION** Auditorium	**Moderator:** Nicola Fohrer, CAU Kiel
11:00 – 11:30	Philip Gassman	SWAT 2018: Global Impacts and Future Horizons
11:30 – 11:50	Jeff Arnold	SWAT+, Restructured routing, input and output file structure in a modular format
11:50 – 12:10	AK Gosain	High-End Climate Change for Specific Warming Levels and Their Implications in the Ganga River Basin
12:10 – 12:30	Srinivasan Raghavan	Water is the next GOLD rush: a case study in Iraq
12:30 – 13:30	LUNCH	

Wednesday, January 10

13:30 – 15:00	**SESSION B1: SENSITIVITY CALIBRATION AND UNCERTAINTY** Auditorium	**Moderator:** Karim Abbaspour, Eawag, Switzerland
13:30 – 13:50	Jens Kiesel	How parameter value identification is impacted by the selection of performance criteria – A SWAT study in four contrasting catchments in Germany
13:50 – 14:10	Riddhi Singh	How well does a model reproduce hydrologic response? Lessons from an inter-model comparison
14:10 – 14:30	Basudev Biswal	Is there a 'universal' calibration-free continuous hydrological model? Testing a dynamic Budyko model in multiple continents
14:30 – 14:50	Venkatesh B	Optimal Estimation of SWAT Model Parameters using Adaptive Surrogate Modelling

Wednesday, January 10

13:30 – 15:00	**SESSION B2: LARGE SCALE APPLICATIONS** Hall 1	**Moderator:** Venkata Reddy Keesara, National Institute of Technology Warangal
13:30 – 13:50	T Thomas	Hydrological Modelling of Narmada basin in Central India using Soil and Water Assessment Tool (SWAT)
13:50 – 14:10	Javzansuren Norvanchig	Modeling sustainability of water resources in Tuul River watershed in Mongolia
14:10 – 14:30	Laveti N V Satish	Surface Water and Groundwater Interactions in Kosi River Basin using Surface and Subsurface Hydrological Modelling

13:30 – 15:00	**SESSION B3: HYDROLOGIC MODELLING & REMOTE SENSING APPLICATIONS** Hall 2	**Moderator:** Srinivasa Raju Komaragiri, BITS Pilani Hyderabad Campus, Hyderabad, India
13:30 – 13:50	Dinesh Kumar Sahadevan	Validity of Top Soil Moisture Estimation Using SAR Data in a Rainfed Region
13:50 – 14:10	Durga Sharma	Prediction of low flow using GRACE derived daily TWSA.
14:10 – 14:30	Sanjeev Jha	A framework for ensemble streamflow forecast using improved post-processed precipitation forecasts
14:30 – 14:50	Padmini Ponukumati	Assessing Impact of Ridge to Valley Scenarios on Soil and Water Processes in relation to Land cover Seasonality

Wednesday, January 10

13:30 – 15:00	**SESSION B4: CLIMATE CHANGE APPLICATIONS** Hall 3	**Moderator:** Sachin Gunthe, IIT Madras

13:30 – 13:50	Anne Gaedeke	The effect of water resources management on uncertainties inherent in climate change impact studies – case study of the Lusatian river basins (Central Europe)
13:50 – 14:10	Smitha P. S	The role of time scale in bias correction and its impact on hydrologic simulations
14:10 – 14:30	Rohith A N	An investigation on the frequency and intensity of extreme precipitation in Chennai city in the context of climate change
14:30 – 14:50	Ansa Thasneem S	Impact of Projected Climate Change on Sediment Yield in the Chaliyar River Basin, India

15:00 – 15:30 **COFFEE BREAK**

Wednesday, January 10

15:30 – 17:00	**SESSION C1: MODEL DEVELOPMENT** Auditorium	**Moderator:** Mudgal Basavaraj, Center for Water Resources, Anna University
15:30 – 15:50	Sangeetha K	Comparative analysis of SWAT model with Coupled SWAT-MODFLOW model for Gibbs Farm Watershed in Georgia
15:50 – 16:10	Kaushlendra Verma	Performance Evaluation of SWAT Model for groundwater variability analysis in Venna river basin of central India
16:10 – 16:30	Hima Bindu Boddu	SWAT-MODFLOW and an Optimization Model for Conjunctive Use of Surface and Groundwater of Nagarjuna Sagar Catchment
16:30 – 16:50	Sahila Beegum	Implementation of Solute Transport in the Vadose Zone into the 'HYDRUS Package for MODFLOW'

Wednesday, January 10

15:30 – 17:00	**SESSION C2: CLIMATE CHANGE APPLICATIONS** Hall 2	**Moderator:** AK Gosain, IIT New Delhi
15:30 – 15:50	Arunbabu Elangovan	Integrating urban growth predictions and climate change for hydrologic assessment in Chennai basin
15:50 – 16:10	Jens Kiesel	Uncertainties in climate change projections – impact of model selection and methods
16:10 – 16:30	Srinivasa Raju Komaragiri	Fuzzy Cognitive Mapping (FCM) application to Climate Change and Water Resources Engineering
16:30 – 16:50	Arulkumar T	Assessment of Streamflow Variability in Thamirabarani River Against Climate and Land-Use Change Dynamics Through Geo-Spatial Modelling Approach

Wednesday, January 10

15:30 – 17:00	**SESSION C3: SENSITIVITY CALIBRATION AND UNCERTAINTY** Hall 1	**Moderator:** Satyaji Rao Yellamelli, National Institute of Hydrology, India

15:30 – 15:50	Venkatesh Basappa	Assess the Impact of Calibration Data Length on the Performance of SWAT Model
15:50 – 16:10	Jayaprathiga Mahalingam	A generalized methodology for identification of threshold for HRU delineation in SWAT model
16:10 – 16:30	Lakshmi Girija	Procedure for identifying the triggering point to dynamically vary the parameter values of a hydrologic model
16:30 – 16:50	Rakesh Kumar Sinha	Sediment yield Modeling with Parameters Sensitivity Analysis of a River basin using SWAT Model.

Wednesday, January 10

15:30 – 17:00	**SESSION C4: HYDROLOGY** Hall 3	**Moderator:** Srinivasan K, IIT Madras
15:30 – 15:50	Muthiah Perumal	Effect of spatial and temporal discretizations on the simulations using constant-parameter and variable-parameter Muskingum methods
15:50 – 16:10	Neelakantan Sajikumar	Incorporation of GIUH into the SWAT model
16:10 – 16:30	Sumit Sen	Streamflow Routing in Perspective of Muskingum Scheme
16:30 – 16:50	Sonam Sandeep Dash	A Bivariate SWAT-Copulas-based Approach for Detection of Agricultural Drought Year in a Tropical Canal Command

18:00 – 20:00 **Relaxing time at SAARANG 2018 (The annual mega cultural festival of IIT Madras)**

Thursday, January 11

9:00 – 10:30	**SESSION D1: SPECIAL SESSION** Auditorium	**Moderator:** Jeff Arnold, USDA-ARS
9:00 – 9:30	Karim Abbaspour	Uncertainty in calibration of large-scale watershed models
9:30 – 9:50	Nicola Fohrer	How to improve the representation of Nitrate processes and their temporal patterns
9:50 – 10:10	Indrajeet Chaubey	Development Efforts in Soil Hydrology and In-stream Water Quality
10:10 – 10:30	Peter Allen	SWAT-DEG App- A Cloud Based Tool for Headwater Streams

10:30 – 11:00 **COFFEE BREAK**

11:00 – 12:30	**SESSION E1: SEDIMENT, NUTRIENTS, AND CARBON** Hall 1	**Moderator:** Peter Allen, Baylor University, Texas
11:00 – 11:20	Mahendra Prasad Tripathi	Modelling stream flow rate and sediment concentration for Seonath Subbasin using Arc-SWAT model
11:20 – 11:40	Venkata Reddy Keesara	Simulation of Nitrates Pollution in Agricultural Watershed
11:40 – 12:00	A R Senthil Kumar	Application of SWAT for the modelling of sediment yield at Pong reservoir, India

Thursday, January 11

11:00 – 12:30	**SESSION E2: HYDROLOGIC MODELLING & REMOTE SENSING APPLICATIONS** Auditorium	**Moderator:** Indrajeet Chaubey, Purdue University
11:00 – 11:20	Balaji Narasimhan	Development of a near real time hydrologic modelling system for India based on ensemble of SWAT model simulations
11:20 – 11:40	Jeba Princy R	Application of Remote Sensing derived land surface information to enhance implementation of management practices in SWAT
11:40 – 12:00	Amol Patil	Improved ensemble representation of soil moisture in SWAT for data assimilation applications
12:00 – 12:20	Anandharuban Panchanathan	Hydrological modeling of a semi urbanized catchment with limited data availability using SWAT model

11:00 – 12:30	**SESSION E3: HYDROLOGY** Hall 3	**Moderator:** P C Nayak, National Institute of Hydrology, India

11:00 – 11:20	Digambar Londhe	Comparative study of Evapotranspiration estimation using SWAT model and MODIS NDVI data
11:20 – 11:40	Nagraj Patil	Runoff Prediction in the Ghataprabha Subbasin using Hydrological Model SWAT
11:40 – 12:00	Jaivir Tyagi	Evaluation of SWAT for modelling the water balance and water yield of Yerrakalva river basin, A.P.

Thursday, January 11

11:00 – 12:30	**SESSION E4: CLIMATE CHANGE APPLICATIONS** Hall 2	**Moderator:** Riddhi Singh, IIT Bombay
11:00 – 11:20	Meenakshi Sundara Arasu Arasappapillai	Impact of Climate change on the hydrology of Ponnaniar Reservoir system using SWAT
11:20 – 11:40	Tirupathi Chanapathi	Extreme event analysis of Krishna river basin under future scenarios
11:40 – 12:00	Sri Lakshmi Sesha Vani Jayanthi	Climate Change Impact on Water Resources of Phakal Lake using SWAT model
12:00 – 12:20	Visakh S	Long Term Trends in Intensity and Distribution of Hydrological Components of Brahmani & Baitarani Basin using SWAT Hydrological Model
12:30 – 13:30	**LUNCH**	

13:30 – 15:00	**SESSION F1: POSTERS** Exhibition Hall and Atrium	**Moderator:** Soumendra Nath Kuiry, IIT Madras

Fakira Bastia	Chemical weathering of continental rocks and its impact on global climate: A review
Basudev Biswal	An integrated dynamic hydrological model for prediction of discharge in data-poor large river basins
Koteswara Rao Dagani	Quantifying the water footprint of an urban agglomeration in developing economy
Chanchal Gupta	Hydrological Stream Flow Modelling for Snow and Glacier fed Mountain Basin using SWAT Model
Aditya Gusain	Hydrological Simulation of Projected High Flows over a Flood-prone River Basin under Data-scarce Condition
Vimal Mishra	Impact of Climate Change on the Water Availability in Snow Dominated River Basins in Bhutan
Nikunj Pathak	Application of SWAT model to study hotspots of 1960s Green revolution in India
Swagat Patnaik	What controls the Recession flow exponent?

Sushama Pradhan	Impacts of On-site System Status: Water Quality and Quantity in Micro to Macro Scale
Javier Senent-Aparicio	Application of ANN and SWAT Models for Daily Streamflow Prediction in different climatic zones in Spain
Javier Senent-Aparicio	Evaluation of SWAT Model for Streamflow and Sediment Yield Simulation in the Bandon River (Ireland)
Shikha Shekhar	SWAT model assessment of runoff variation and reservoir impact in Manjira river Basin, India.
Mahendra Prasad Tripathi	Prioritization of critical sub-watershed of Hamp Watershed in Upper Mahanadi Basin using SWAT and Morphometric Analysis
Mahendra Prasad Tripathi	Modelling Runoff and Sediment Yield from a Small Watershed Using ArcSWAT for Identification of Critical Sub-watersheds
Bindhu VM	Development of an Operational forecasting and Decision Support System (DSS) for effective management of reservoir systems: Case study of Lunugumwehera reservoir, Kirindi Oya basin, Sri Lanka
14:30 – 19:30	**Cultural Tour to Dakshin Chitra (leaving IIT Madras campus at 14:30PM)**
19:30	**DINNER GALA at Dakshin Chitra**

Friday, January 12

9:00 – 10:30	**SESSION G1: ENVIRONMENTAL APPLICATIONS** Hall 1	**Moderator:** Indumathi Nambi, IIT Madras
9:00 – 9:20	Narayan Kumar Shrestha	Modelling nitrous oxide (N_2O) emission from soils using the Soil and Water Assessment Tool (SWAT)
9:20 – 9:40	Wei Ouyang	Assessment of precipitation effects on hydrological characteristic and nitrogen loss under different land use types in southern China
9:40 – 10:00	Sandeep Rana	Environmental Impact Assessment of Current and Potential Additional Water Abstraction from the Badas (Belait) River, Brunei
10:00 – 10:20	Anne Gaedeke	Measuring effectiveness of practices for knowledge co-production around hydrological modelling: need for a framework?

Friday, January 12

9:00 – 10:30	**SESSION G2: CLIMATE CHANGE APPLICATIONS** Hall 3	**Moderator:** Sumit Sen, IIT Roorkee
9:00 – 9:20	Ankit Deshmukh	Identifying physio-climatic controls on watershed vulnerability to climate and land use change
9:20 – 9:40	Manoj Jain	Assessment of Runoff Generation at Rift Valley Lakes Basin of Ethiopia for present and future climate scenario
9:40 – 10:00	Leelambar Singh Singh	Assessing Impact of landuse/Land cover Changes on Stream flow in Noyyal River catchment using ArcSWAT model
10:00 – 10:20	Santosh S. Palmate	Effects of land use change on the water resources of the Basoda basin using the SWAT model

Friday, January 12

9:00 – 10:30	**SESSION G3: HYDROLOGIC MODELLING & REMOTE SENSING APPLICATIONS** Hall 2	**Moderator:** Balaji Narasimhan, IIT Madras

9:00 – 9:20	Praveenkumar Chelluri	Evaluation of Daily TMPA Rainfall for Rainfall-Runoff Modelling Using SWAT in Indravati River Basin, India
9:20 – 9:40	Sathyaseelan M	Hydrological Modelling of Goi River Watershed of Narmada Basin using Soil and Water Assessment Tool (SWAT)
9:40 – 10:00	Aruna Kumar Nayak	Calibration and evaluation of the efficacy of Xinanjiang Model in a watershed in the USA
10:00 – 10:20	Kaushlendra Verma	Soil moisture variability correlation with remotely sensed GLDAS Data using SWAT-model output data for Upper Godavari River basin.

10:30 – 11:00 **COFFEE BREAK**

Friday, January 12

11:00 – 12:30	**SESSION H1: CLIMATE CHANGE APPLICATIONS** Auditorium	**Moderator:** Manoj Jain, IIT Roorkee

11:00 – 11:20	Dharmendra Saraswat	SWAT Tools- An Innovative Cyber Infrastructure for Watershed Modelers
11:20 – 11:40	Valliammai Meiyappan	Impact of Climate Change on Hydrology of Watershed
11:40 – 12:00	P C Nayak	Assessing the impact of climate change for Mahanadi basin using SWAT model
12:00 – 12:20	Soumyashree Dixit	Impact of Climate Change on Munneru River Basin Using SWAT

Friday, January 12

11:00 – 12:30	**SESSION H2: HYDROLOGY** Hall 1	**Moderator:** Basudev Biswal, IIT Bombay
11:00 – 11:20	Jeji Joseph	Groundwater Profile Prediction of Kechery Watershed
11:20 – 11:40	Surinaidu Lagudu	Assessment of groundwater flow process driven by geomorphology in the Godavari river basin
11:40 – 12:00	Anita Nag	Prediction of flow duration curve for ungauged catchments in south India with calibration free dynamic Budyko model
12:00 – 12:20	Satyaji Rao Yellamelli	Management of Storm Water Flooding in Metropolitan Cities of India

Friday, January 12

11:00 – 12:30	**SESSION H3: SENSITIVITY CALIBRATION AND UNCERTAINTY** Hall 2	**Moderator:** Venkatesh Basappa, National Institute of Hydrology, Kakinada
11:00 – 11:20	Vamsi Krishna Vema	Uncertainty in the SWAT Model Simulations due to Different Spatial Resolution of Gridded Precipitation Data
11:20 – 11:40	Cicily Kurian	Investigating the effect of calibration objective function on a flood forecasting system
11:40 – 12:00	V Kumar	Hydrological Assessment of Gridhamal Basin and Sensitivity Analysis using SWAT

Friday, January 12

11:00 – 12:30	**SESSION H4: SWAT DEVELOPMENT AND APPLICATION IN INDIA** Hall 3	**Moderator:** Jaivir Tyagi, National Institute of Hydrology, India

11:00 – 11:20	Aatish Anshuman	Performance Evaluation of Swat with a Conceptual Rainfall-Runoff Model GR4J a Catchment in Upper Godavari River Basin
11:20 – 11:40	Dinagara Pandi	Soil Water Balance model over the Chittar Subbasin, Tamilnadu using SWAT
11:40 – 12:00	Santhoshkumar C	Hydrologic Response of Bhavani Sagar Reservoir Watershed Using SWAT
12:00 – 12:20	Mousumi Ghosh	Streamflow quantification using SWAT in a catchment of Coastal Odisha

12:30 – 13:30 **LUNCH**

Friday, January 12

13:30 – 15:00	**SESSION I1: SENSITIVITY CALIBRATION AND UNCERTAINTY** Hall 1	**Moderator:** Sudheer KP, IIT Madras

13:30 – 13:50	Shirisha Pulukuri	Parameter Optimisation of runoff model using Particle Swarm Optimisation
13:50 – 14:10	Priyamitra Munoth	Hydrological Modeling of Upper Tapi River Sub-Basin, India using QSWAT Model and SUFI2 Algorithm
14:10 – 14:30	Smitha P S	A study on the impact of errors in weather parameters generated by stochastic weather generators in hydrologic simulations
14:30 – 14:50	Mohdzuned Shaikh	Calibration & Validation of MWSWAT Hydrological Model to Estimate Hydrological Parameter of Sabarmati River

Friday, January 12

13:30 – 15:00	**SESSION I2: CLIMATE CHANGE APPLICATIONS** Hall 2	**Moderator:** T Thomas, National Institute of Hydrology, India
13:30 – 13:50	Ashwini Pai Panandiker	Isolating the impacts of climate change using QSWAT model on Uguem river stream-flow at Goa, India
13:50 – 14:10	Rehana Shaik	Climate Change Sensitivity Assessment using SWAT for a Highly Agricultural Watershed, Shell Creek, Nebraska, USA.
14:10 – 14:30	Kiran Jella	Hydrological Assessment of Climate Change Impacts on Sustainable Agriculture - A Case Study in Krishna Basin

15:00 – 15:30 **COFFEE BREAK**

15:30 – 16:30 **CLOSING DISCUSSIONS**

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