



PROGRAM

STAHY 2016 Workshop

September 26-27, Quebec

INRS
UNIVERSITÉ DE RECHERCHE
A RESEARCH UNIVERSITY



Location and contact information

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Program Overview

Time	Monday, September 26, 2016	Tuesday, September 27, 2016
08:00-09:00	Registration	Registration
	Welcome address	
09:00-10:00	Jose D. Salas: Statistical analysis of hydrological processes in non-stationary environments	Vijay Singh: Tsallis entropy theory for hydrologic modeling
10:00-11:00	Session I Nonstationarity of hydrological events : causes, patterns, implications and modeling	Session V Emerging applications of statistics in Ecological/Environmental hydrology
11:00-12:00	Coffee Break	Coffee Break
12:00-13:00	Session II Advances and challenges in hydrological forecasting and time series analysis (Part 1)	Session VI Advances in flood frequency analysis and risk assessment
13:00-14:00	Lunch	Lunch
14:00-15:00	Session III Advances and challenges in hydrological forecasting and time series analysis (Part 2)	Session VII Hydrologic data assimilation
15:00-16:00	Coffee Break	Coffee Break & Poster Session
16:00-17:00	Session IV Recent copula developments in hydrology	Session VIII New insights in regional frequency estimation
17:00-18:00	Depart for banquet	Closing of conference & symbolic awards
Evening	Banquet	

Monday, September 26, 2016

08:00-08:45 **Registration**

08:45-09:00 **Welcome adress (Room 2422)**

09:00-09:45 **Keynote I (Room 2422)**

Chairperson : Taha Ouarda

Jose D. Salas, Jayantha Obeysekera

Statistical analysis of hydrological processes in non-stationary environments

09:45-11:00 **Session I : Nonstationarity of hydrological events : causes, patterns, implications and modeling (Room 2422)**

Chairperson : Uwer Haberlandt

Nonstationary precipitation frequency analysis: historical assessment and future projections

Amir AghaKouchak, Elisa Ragno, Charlotte Love

An exploration of the nature of nonstationarity in flood regimes

Donald Burn, Paul Whitfield

Some advances in hydrological frequency analysis for non-stationary time series in China

Shengnan Yu, Yuanfang Chen, Qin Huang

Integrating extreme events induced from typhoons and monsoon for nonstationary frequency analysis

Chanyoung Son, Taesam Lee

Frequency bias correction : a one-stop shop for addressing low-frequency bias issues in GCM simulations

Ashish Sharma

11:00-11:30 **Coffee Break (Room 2414)**

11:30-13:00 **Session II : Advances and challenges in hydrological forecasting and time series analysis (Part 1) (Room 2422)**

Chairperson : Amir AghaKouchak

Generation forecasting : get the most of your historical data

Pierre-Olivier Caron Périgny, Colin Rickert

Short term river flow forecasting in eastern Quebec- data driven approaches

Mahsa Ghasri, Zhiming Qi, Jan Adamowski, Hamid Akbarzadeh

Meteorological drought in Indian central Himalayan region: Monitoring and mitigation strategy

Anil Kumar, Ram Kumar

Wavelet based hybrid approaches for streamflow data extension

Deasy Nalley

Hybrid neural network model for long-term precipitation forecasting using large scale climate indices

Rim Ouachani, Taha B.M.J. Ouarda, Zoubeida Bargaoui

The future of stochastic streamflow models

Richard Vogel

13:00-14:15	Lunch Break (Third floor)
14:15-15:30	<p>Session III : Advances and challenges in hydrological forecasting and time series analysis (Part 2) (Room 2422)</p> <p>Chairperson : Richard Vogel</p> <p><i>Streamflow forecasting using functional time series</i> <u>Yohann Chiu</u>, Sophie Dabo-Niang, Fateh Chebana, Taha B.M.J. Ouarda</p> <p><i>Model selection techniques to assess improvements in urban rainfall-runoff modelling</i> <u>James Fidal</u>, Thomas Kjeldsen</p> <p><i>Distinction of flood types by statistical analysis of their genesis</i> <u>Denise Friebe</u>, Svenja Fischer, Andreas Schumann</p> <p><i>Post-processing experiments of ensemble weather forecasts over river basins managed by Hydro-Québec</i> <u>Luc Perreault</u>, Marie Courbariaux, Éric Parent</p> <p><i>A hybrid approach for de-noising hydrometeorological time series</i> <u>Dong Wang</u>, Vijay Singh, Xiaosan Shang, Hao Ding, Jichun Wu, Lachun Wang, Xinqing Zou, Yuanfang Chen, Xi Chen, Shicheng Wang, Zhenlong Wang</p>
15:30-16:00	Coffee Break (Room 2414)
16:00-17:30	<p>Session IV : Recent copula developments in hydrology (Room 2422)</p> <p>Chairperson : Louis-Paul Rivest</p> <p><i>On the adaptation of the goodness-of-fit tests for copulas to spatial model: A simulation study and an application to the Meuse River</i> <u>Martin Durocher</u>, Jean-François Quessy</p> <p><i>A spatio-temporal model for extreme precipitation simulated by a climate model; with an application for assessing changes in return levels over North America</i> <u>Jonathan Jalbert</u></p> <p><i>New procedures for goodness of fit testing for multiparameter copula</i> <u>Imene Ben Nasr</u>, Fateh Chebana</p> <p><i>Copula-based quantile regression and inference</i> <u>Bouchra Nasri</u>, Taoufik Bouezmarni, André St-Hilaire, Taha B.M.J. Ouarda</p> <p><i>Inference for dependence models and hydrological applications</i> <u>Bruno Rémillard</u>, Christian Genest, Johanna Nešlehová</p> <p><i>Hydrological time series modelling using copulas</i> <u>Ilnaz Asadzadeh</u>, <u>Anthony Ware</u></p>
17:30-18:00	Depart for banquet
Evening	Banquet

Tuesday, September 27, 201608:00-08:45 **Registration**08:45-09:30 **Keynote II (Room 2422)****Chairperson : Donald Burn****Vijay Singh***Tsallis entropy theory for hydrologic modeling*09:30-11:00 **Session V : Emerging applications of statistics in Ecological/Environmental hydrology (Room 2422)****Chairperson : Elena Volpi***Uncertainty associated to extreme events under stationary and non-stationary conditions***Yasser Hamdi, Claire-Marie Duluc, Vincent Rebour***Simple scaling of extreme precipitations over North America***Silvia Innocenti, Alain Mailhot, Anne Frigon***A multi-criteria process based calibration coupled with functional data analysis applied to a conceptual model***Samah Larabi, André St-Hilaire, Fateh Chebana***Nonlinear input variable selection techniques for multivariate water resources modeling***John Quilty, Jan Adamowski, Bahaa Khalil, Maheswaran Rathinasamy***The effect of different types of rating curve uncertainty in rainfall-runoff model calibration and prediction***Anna E. Sikorska, Benjamin Renard***Water temperature modelling: An overview of existing statistical model***André St-Hilaire, Anik Daigle**11:00-11:30 **Coffee Break (Room 2414)**11:30-13:00 **Session VI : Advances in flood frequency analysis and risk assessment (Room 2422)****Chairperson : Ashish Sharma***Non-crossing quantile regression for regularly varying distributions***Salah El Adlouni, Ismaila Baldé***Characterisation of seasonal flood types according to timescales in mixed probability distributions***Svenja Fischer, Andreas Schumann, Markus Schulte***Design storms vs rainfall models for estimating extremes - a comparison for German data***Uwe Haberlandt, Ana Claudia Callau Poduje***Bayesian estimation of rainfall intensity-duration-frequency relationships***Hans Van de Vyver***Return period estimation for time dependent processes***Elena Volpi, Aldo Fiori, Salvatore Grimaldi, Federico Lombardo, Demetris Koutsoyiannis***Estimation of extreme water levels using a spatial GEV model***Nicholas Beck, Véronique Tremblay, Jonathan Jalbert**

13:00-14:15	Lunch Break (Third floor)
14:15-15:15	<p>Session VII : Hydrologic data assimilation (Room 2422) Chairperson : Ousmane Seidou</p> <p><i>An efficient method to correct under-dispersion in ensemble streamflow prediction of inflow volumes for reservoir optimization</i> <u>Richard Arsenault, Marco Latraverse, Thierry Duchesne</u></p> <p><i>Assimilation of ERT data for the update of groundwater parameters in a saltwater intrusion laboratory experiment</i> <u>Véronique Bouzaglou, Matteo Camporese, Erwan Gloaguen, Elena Crestani, Paolo Salandin</u></p> <p><i>Impact of the frequency of data assimilation on flow forecast using the modified Auxiliary Particle Filter (MASIR) into the CEQUEAU hydrological model</i> <u>Olivier Chimi Chiadjeu, André St-Hilaire, Marie-Amélie Boucher</u></p> <p><i>Hydrologic modelling in changing catchments</i> Sahani Pathiraja, <u>Ashish Sharma</u></p>
15:15-16:30	<p>Coffee Break (Room 2414) & Poster Session Poster Session (See page 8) Chairpersons : Emna Gargouri-Ellouze and Taesam Lee</p>
16:30-17:30	<p>Session VIII : New insights in regional frequency estimation (Room 2422) Chairperson : André St-Hilaire</p> <p><i>Which is the best distance for hydrological regionalization methodology? (Case of Tunisian Catchments)</i> <u>Rim Cherif, Emna Gargouri-Ellouze</u></p> <p><i>Estimate of flood quantiles at ungauged sites through regionally estimated daily streamflow series</i> <u>Ana I. Requena, Taha B.M.J. Ouarda, Fateh Chebana</u></p> <p><i>Delineation of homogeneous regions for multivariate regional frequency analysis using modified Mahalanobis distance based on Kendalls tau</i> <u>Emna Gargouri-Ellouze, Rim Chérif, Saeid Eslamian</u></p> <p><i>Nonparametric procedures in regional homogeneity testing</i> <u>Pierre Masselot, Fateh Chebana, Taha B.M.J. Ouarda</u></p>
17:30-18:00	Closing of Conference and symbolic awards

Poster Session: Tuesday, September 27, 2016

[1] *Evaluation of drop size distribution fitting performance for quantitative precipitation estimation*

Elisa Adirosi, Elena Volpi, Federico Lombardo, Luca Baldini

[2] *An explicitly diverse ensemble learner with robust combiners for low-flow quantiles estimation*

Mohamed Alobaidi

[3] *Non-Gaussian multisite simulation of extreme daily precipitation: downscaling application*

Mohamed Ali Ben Alaya, Taha B.M.J. Ouarda, Fateh Chebana

[4] *Performance of univariate time series models for short-term forecasting of potable water demand for several prediction horizon lengths; Mouna Doghri, Sophie Duchesne, Annie Poulin*

[5] *Development and assessment of non-linear and non-stationary seasonal rainfall forecast models for the Sirba watershed, West Africa; Abdouramane Gado Djibo, Ousmane Seidou, Harouna Karambiri, Ketevera Sittichok, Jean Emmanuel Paturel, Hadiza Moussa Saley*

[6] *Basin compatibility and merging procedure for improving copula applications*

Salvatore Grimaldi, Andrea Petroselli, Gianfausto Salvadori, Carlo De Michele

[7] *Recent advances in hydrometric data collection for hydropower development in Sarawak, Malaysia*

Chia Fuk Jing, Mubasher Hussain, Susie Nadya

[8] *Merging alternate remotely sensed soil moisture by a dynamic linear combination*

Seokhyeon Kim, Robert M. Parinussa, Yi. Y. Liu, Fiona M. Johnson, Ashish Sharma

[9] *Performance of the Generalized Exponential Distribution when modelling floods in small Bohemian catchments; Ondrej Ledvinka*

[10] *Design flood review and spillway routing for Murum Hydroelectric Plant in Sarawak, Malaysia*

Susie Nadya, Mubasher Hussain, Chia Fuk Jing

[11] *A decision-support tool for estimating extreme design rainfalls; Truong-Huy Nguyen*

[12] *On the use of at-site estimated quantiles in regional frequency analysis*

Dhouha Ouali, Fateh. Chebana, Taha B.M.J. Ouarda

[13] *Flood and low flow: non-stationary frequency analysis in Cauca River, Colombia*

Karime Sedano Cruz, Yesid Carvajal Escobar, Félix Francés García, Jesús López de la Cruz

[14] *Nonstationary and nonlinear Peaks-Over-Threshold model for the occurrence and magnitude of extreme precipitation over Southeastern of Canada; Alida Thiombiano, Salaheddine El Adlouni, André St-Hilaire*

[15] *A decision support tool for assessing the climate change impacts on local rainfall extremes*

Myeong-Ho Yeo

Conference committees

Local organizing committee

Fateh Chebana (Chair)

Taha Ouarda

André St-Hilaire

Jean-Xavier Giroux

Ana Requena

Yohann Chiu

Pierre Masselot

Imene Ben Nasr

Jean-Daniel Bourgault

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