

HORAIRE / *PROGRAM*

ATELIER CRM-INCASS SUR

**LES NOUVEAUX HORIZONS EN MODÉLISATION PAR
COPULES**

15 au 18 décembre 2014

CRM-CANSSI WORKSHOP ON

NEW HORIZONS IN COPULA MODELING

December 15–18, 2014

Conférences : salle 6254 (Pavillon André-Aisenstadt)

Pauses-café, réceptions, sessions d'affiches : salle 6245 (Pavillon André-Aisenstadt)

Lectures: Room 6254 (Pavillon André-Aisenstadt)

Coffee Breaks, Receptions, Poster Sessions: Room 6245 (Pavillon André-Aisenstadt)

Le lundi 15 décembre 2014 / Monday, December 15, 2014

08:15–08:45 Inscription (salle 5345) et café-croissants (salle 6245)
Registration (Room 5345) and Coffee & Croissants (Room 6245)

Recent Developments in Copula Theory

Président / *Chair* : C. Genest (McGill University)

08:45–09:00 Mots de bienvenue / *Introductory remarks*

09:00–10:00 Claudia Czado (Technische Universität München)
“Introduction to vines and some recent applications”

10:00–10:30 Pause-café / *Coffee break* (Salle / Room 6245)

10:30–11:30 Matthias Scherer (Technische Universität München)
“Rethinking fatal shock models: using stochastic processes as mixture”

11:30–13:30 Pause-déjeuner / *Lunch break*

Copulas in Action: Financial and Economic Concerns (A)

Président / *Chair* : B. Rémillard (HEC)

13:30–14:30 Andrew Patton (Duke University)
“High-dimensional copula-based distributions with mixed frequency data”

14:30–15:15 Valérie Chavez-Demoulin (Université de Lausanne)
“Generalized additive models for conditional dependence structures”

15:15–15:45 Pause-café / *Coffee break* (Salle / Room 6245)

Session d'affiches / Poster Session (15:45–17:15)

Mohamed Belalia (Université de Sherbrooke)
“Tests of independence based on Bernstein empirical copula and density”

Félix Camirand-Lemyre (Université de Sherbrooke)
“Empirical conditional copula estimator properties under mixing conditions”

Marie-Pier Côté (McGill University)
“A copula-based risk aggregation model”

Lutz Gruber (Technische Universität München)
“Bayesian model selection of regular vine copulas”

Matthias Killiches (Technische Universität München)
“Block-maxima of vines”

Thomas Nagler (Technische Universität München)
“Multivariate kernel density estimation without curse of dimensionality”

Fodé Tounkara (Université Laval)
“Using Archimedean copulas to model dichotomous data”

Thibault Vatter (Université de Lausanne)
“Generalized additive models for conditional dependence structures”

17:15–18:30 Réception de bienvenue / <i>Welcoming Reception</i> (Salle / Room 6245)

Le mardi 16 décembre 2014 / Tuesday, December 16, 2014

08:30–09:00 Café croissants / *Coffee & Croissants* (Salle / Room 6245)

Copulas in Action: Financial and Economic Concerns (B)

Président / *Chair* : E. Acar (University of Manitoba)

09:00–10:00 Brendan Beare (University of California, San Diego)
“Dynamic modeling with copulas”

10:00–10:45 Giovanni Puccetti (Università degli Studi di Firenze)
“Extremal negative dependence concepts”

10:45–11:15 Pause-café / *Coffee break* (Salle / Room 6245)

11:15–12:15 Edward W. (Jed) Frees (University of Wisconsin)
“Analytics of insurance markets”

12:15–13:45 Pause-déjeuner / *Lunch break*

Copulas in Action: Environmental Concerns (A)

Président / *Chair* : J. Neshlehova (McGill University)

13:45–14:45 Gianfausto Salvadori (Università del Salento)
“A multivariate approach to environmental- and structural-risk in hydrology”

14:45–15:15 Pause-café / *Coffee break* (Salle / Room 6245)

15:15–16:15 Salvatore Grimaldi (Università degli Studi della Tuscia)
“Copulas as a signature of hydrological response”

16:15–17:15 Philippe Naveau (CEA-Orme des Merisiers)
“Nonparametric estimation of the Pickands dependence function using Bernstein polynomials”

18:00– Banquet au restaurant "Le Cercle" (HEC Montréal)
Banquet at "Le Cercle" (HEC Montréal)

Le mercredi 17 décembre 2014 / Wednesday, December 17, 2014

08:30–09:00 Café croissants / *Coffee & Croissants* (Salle / Room 6245)

Copulas in Action: Environmental Concerns (B)

Président / *Chair* : J.-F. Quessy (Université du Québec à Trois-Rivières)

09:00–10:00 Luis Mediero Orduna (Universidad Politécnica de Madrid)
“Multivariate regional frequency analysis in hydrology based on copulas”

10:00–10:30 Pause-café / *Coffee break* (Salle / Room 6245)

10:30–11:15 Benedikt Gräler (Universität Münster)
“Modelling spatio-temporal random fields locally with vine copulas”

11:15–12:00 Tobias Erhardt (Technische Universität München)
“Modeling spatial dependencies using spatial vine copula approaches”

12:00–13:30 Pause-déjeuner / *Lunch break*

Copulas in Action: Health Concerns

Président / *Chair* : R. Craiu (University of Toronto)

13:30–14:30 Richard J. Cook (University of Waterloo)
“The utility of copula models in health research”

14:30–15:00 Pause-café / *Coffee break* (Salle / Room 6245)

15:00–16:00 Peter X. Song (University of Michigan)
“A goodness-of-fit test for the specification of semiparametric copula dependence models”

16:00–16:45 Lajmi Lakhal Chaieb (Université Laval)
“A rare-variant association test for non-normal/censored outcomes in family-based designs”

Session d'affiches & coquetel / Poster Session & Cocktail (16:45–18:30)

Fateh Chebana (INRS)

“Probabilistic Gaussian copula regression model: application to multisite and multivariable downscaling”

Martin Durocher (INRS)

“Improving spatial prediction at ungauged basins with spatial copula framework”

Dorra Hammami (INRS-ETE)

“Multivariate analysis of maximum water levels in the Great Lakes”

Dhouha Ouali (INRS)

“Study of suspended sediment transport events using copulas”

Ana I. Requena (Technical University of Madrid)

“Extension of flood series by joining hydro-meteorological and bivariate copula-based models”

Daniel Kraus (Technische Universität München)

“Using R vine copulas to explain dependencies of health care costs”

Marie-Hélène Toupin (Université Laval)

“On semi-parametric pairwise inference methods in spatial models based on copulas”

Le jeudi 18 décembre 2014 / *Thursday, December 18, 2014*

08:30–09:00 Café croissants / *Coffee & Croissants* (Salle / Room 6245)

Copulas in Action: Emerging areas

Président / *Chair* : L.-P. Rivest (Université Laval)

09:00–10:00 Gal Elidan (Hebrew University / Google)
“Copulas and machine learning”

10:00–10:30 Pause-café / *Coffee break* (Salle / Room 6245)

10:30–11:15 Harry Joe (University of British Columbia)
“Conditional independence copula models with graphical representations”

11:15–12:00 Perspective de travaux futurs dans la modélisation par copules / *Perspective on future work in copula modeling*

12:00–13:15 Rencontre de l'équipe copula INCASS / *Meeting of the CANSSI copula team*