

Friday, September 26	Saturday, September 27	Sunday, September 28
8:15 – 8:45 Conference Registration	8:30 – 9:00 Conference Registration	8:30 – 9:00 Conference Registration
8:45 – 9:00 Opening Remarks		
9:00 – 10:00 <b>Invited Talk: “Deep Beliefs”</b> Speaker: Professor Nando de Freitas Oxford University	9:00 – 10:00 <b>Invited Talk: “Uncertainty in the Semantic Web”</b> Speaker: Professor Thomas Lukasiewicz, Oxford	9:00 – 10:20 <b>Theory 2</b> Chair: Thierry Denoeux
10:00 – 10:30 Coffee break	10:00 – 10:30 Coffee break	10:20 – 10:50 Coffee break
10:30 – 12:10 <b>Belief Combination</b> Chair: Olivier Colot	10:30 – 12:10 <b>Theory 1</b> Chair: Johan Schubert	10:50 – 12:10 <b>Data Association</b> Chair: Yaxin Bi
12:10 – 13:30 Lunch	12:10 – 13:30 Lunch	12:10 – 13:30 Lunch
13:30 – 15:30 <b>Machine Learning</b> Chair: Sébastien Destercke	13:30 – 15:30 <b>Applications 2</b> Chair: Arnaud Martin	13:30 – 15:00 <b>Panel Discussion</b> Chair: Fabio Cuzzolin
15:30 – 16:00 Coffee break	15:30 – 16:00 Coffee break	15:00 – 16:20 <b>Information Fusion</b> Chair: Joachim Clemens
16:00 – 17:40 <b>Applications 1</b> Chair: David Mercier	16:00 – 17:40 <b>Networks</b> Chair: Prakash Shenoy	16:20 – 16:50 Coffee break
17:40 – 18:40 <b>BFAS General Meeting</b>	18:00 – 22:00 <b>Conference Banquet/Award Ceremony</b>	16:50 – 17:50 <b>Geometry</b> Chair: Anne-Laure Joussemle
		17:50 – 18:00 Closing Remarks

# BELIEF 2014 – Third International Conference on Belief Functions, September 26-28 2014, Oxford, UK

## Detailed Program

Friday, September 26<sup>th</sup>

8:15 – 8:45	Conference Registration
8:45 – 9:00	Opening Remarks
9:00 – 10:00	<p style="text-align: center;"><b>Invited Talk</b></p> <p style="text-align: center;"><b>Speaker:</b> Professor Nando de Freitas Oxford University</p> <p style="text-align: center;"><b>Title:</b> “<i>Deep Beliefs</i>”</p> <p><i>This talk entertains the view of encoding beliefs as continuous, deep, latent embeddings. I will discuss how contrastive learning approaches for probabilistic models relate to multi-task learning of deep embeddings for perceptual inputs and language. Subsequently, I will address the problems of inference, knowledge transfer, reasoning, imitation learning and decision making within this framework.</i></p>
10:00 – 10:30	Coffee break
10:30 – 12:10	<p style="text-align: center;"><b>Belief Combination</b></p> <p style="text-align: center;">Chair: Olivier Colot</p> <p><i><math>\alpha</math>-junctions of Categorical Mass Functions</i> John Klein, Mehena Loudahi, Jean-Marc Vannobel and Olivier Colot</p> <p>Truthfulness in Contextual Information Correction</p>

	<p>Frédéric Pichon, David Mercier, François Delmotte, and Éric Lefèvre</p> <p><i>The Choice of Generalized Dempster-Shafer Rules for Aggregating Belief Functions Based on Imprecision Indices</i> Andrey G. Bronevich and Igor N. Rozenberg</p> <p><i>General Schemes of Combining Rules and the Quality Characteristics of Combining</i> Alexander Lepskiy</p> <p><i>An Optimal Unified Combination Rule</i> Yanyan He and M. Yousuff Hussaini</p>
12:10 – 13:30	Lunch
13:30 – 15:30	<p style="text-align: center;"><b>Machine Learning</b> Chair: Sébastien Destercke</p> <p><i>Evidential Logistic Regression for Binary SVM Classifier Calibration</i> Philippe Xu, Franck Davoine, and Thierry Denœux</p> <p><i>The Evidence-theoretic k-NN Rule for Rank-ordered Data: Application to Predict an Individual's Source of Loan</i> Supanika Leurcharusmee, Peerapat Jatukannyaprateep, Songsak Sriboonchitta, and Thierry Denœux</p> <p><i>Belief Hierarchical Clustering</i> Wiem Maalel, Kuang Zhou, Arnaud Martin, and Zied Elouedi</p> <p><i>Logistic Regression of Soft Labeled Instances via the Evidential EM Algorithm</i> Benjamin Quost</p> <p><i>Training and Evaluating Classifiers from Evidential Data: Application to E2M Decision Tree Pruning</i> Nicolas Sutton-Charani, Sébastien Destercke, and Thierry Denœux</p>

	<p><i>Reflections on DS/AHP: Lessons to be learnt</i> Malcolm J. Beynon</p>
15:30 – 16:00	Coffee break
16:00 – 17:40	<p style="text-align: center;"><b>Applications 1</b> Chair: David Mercier</p> <p><i>Evidential Database: A New Generalization of Databases?</i> Ahmed Samet, Eric Lefèvre, and Sadok Ben Yahia</p> <p><i>Belief Approach for Social Networks</i> Salma Ben Dhaou, Mouloud Kharoune, Arnaud Martin, and Boutheina Ben Yaghlane</p> <p><i>Methods Handling Accident and Traffic Jam Information with Belief Functions in VANETs</i> Mira Bou Farah, David Mercier, François Delmotte, Éric Lefèvre, and Sylvain Lagrue</p> <p><i>Designing a Belief Function-Based Accessibility Indicator to Improve Web Browsing for Disabled People</i> Jean-Christophe Dubois, Yolande Le Gall and Arnaud Martin</p> <p><i>Belief Reasoning Model for Mapping Public Participation in Transport Planning</i> Nopadon Kronprasert, and Antti P. Talvitie</p>
17:40 – 18:40	<b>BFAS General Meeting</b>
20:00-22:00	<b>BFAS Board of Directors dinner</b>

Saturday, September 27<sup>th</sup>

8:30 – 9:00	Conference Registration
9:00 – 10:00	<p style="text-align: center;"><b>Invited Talk</b> <b>Speaker:</b> Professor Thomas Lukasiewicz Oxford University</p> <p style="text-align: center;"><b>Title:</b> “<i>Uncertainty in the Semantic Web</i>”</p>
10:00 – 10:30	Coffee break
10:30 – 12:10	<p style="text-align: center;"><b>Theory 1</b> Chair: Johan Schubert</p> <p><i>Some Notes on Canonical Decomposition and Separability of a Belief function</i> Xiaolu Ke, Liyao Ma, and Yong Wang</p> <p><i>A Relational Representation of Belief Functions</i> Liping Liu</p> <p><i>Modeling Qualitative Assessments under the Belief Function Framework</i> Amel Ennaceur, Zied Elouedi, and Éric Lefèvre</p> <p><i>A Study on Generalising Bayesian Inference to Evidential Reasoning</i> Jian-Bo Yang and Dong-Ling Xu</p> <p><i>Partial Ranking by Incomplete Pairwise Comparisons using Preference Subsets</i> Johan Schubert</p>

12:10 – 13:30	Lunch
13:30 – 15:30	<p style="text-align: center;"><b>Applications 2</b> Chair: Arnaud Martin</p> <p><i>Mathematical Theory of Evidence in Navigation</i> Włodzimierz Filipowicz</p> <p><i>Application of Belief Functions Theory to Non Destructive Testing of Industrial Pieces</i> Ahmad Osman, Valerie Kaftandjian, and Ulf Hassler</p> <p><i>Predicting Stock Returns in the Capital Asset Pricing Model Using Quantile Regression and Belief Functions</i> Kittawit Autchariyapanitkul, Somsak Chanaim, Songsak Sriboonchitta, and Thierry Denœux</p> <p><i>Evidential Object Recognition based on Information Gain Maximization</i> Thomas Reineking and Kerstin Schill</p> <p><i>Evidence-Based Modelling of Organizational Social Capital with Incomplete Data: An NCaRBS Analysis</i> Malcolm J. Beynon and Rhys Andrews</p> <p><i>Outliers in Evidential C-Means: An Empirical Exploration using Survey Data on Organizational Social Capital</i> Malcolm J. Beynon and Rhys Andrews</p>
15:30 – 16:00	Coffee break
16:00 – 17:40	<p style="text-align: center;"><b>Networks</b> Chair: Prakash P. Shenoy</p> <p><i>Causal Compositional Models in Valuation-Based Systems</i> Radim Jiroušek and Prakash P. Shenoy</p>

	<p><i>Merging Possibilistic Networks through a Disjunctive Mode</i> Faiza Titouna and Salem Benferhat</p> <p><i>On the Estimation of Mass Functions Using Self Organizing Maps</i> Imen Hammami, Jean Dezert, Grégoire Mercier, and Atef Hamouda</p> <p><i>Second-order Belief Hidden Markov Models</i> Jungyeul Park, Mouna Chebbah, Siwar Jendoubi, and Arnaud Martin</p> <p><i>Learning Parameters in Directed Evidential Networks with Conditional Belief Functions</i> Narjes Ben Hariz and Boutheina Ben Yaghlane</p>
18:00 – 22:00	<p style="text-align: center;"><b>Conference Banquet/Award Ceremony</b></p> <p style="text-align: center;">St Hugh's college</p>

Sunday, September 28<sup>th</sup>

8:30 – 9:00	Conference Registration
9:00 – 10:20	<p style="text-align: center;"><b>Theory 2</b> Chair: Thierry Denoeux</p> <p><i>Econometric Forecasting Using Linear Regression and Belief Functions</i> Orakanya Kanjanatarakul, Philai Lertpongpiroon, Sombat Singkharat, and Songsak Sriboonchitta</p> <p><i>Modelling and Fusion of Imperfect Implication Rules</i> Janith N. Heendeni, Kamal Premaratne, Manohar N. Murthi, and Matthias Scheutz</p> <p><i>Conflict between Belief Functions: a New Measure Based on their Non-Conflicting Parts</i> Milan Daniel</p> <p><i>On Marginal Problem in Evidence Theory</i> Jiřina Vejnarová</p>
10:20 – 10:50	Coffee break
10:50 – 12:10	<p style="text-align: center;"><b>Data Association</b> Chair: Yaxin Bi</p> <p><i>On the Quality of Optimal Assignment for Data Association</i> Jean Dezert, and Kaouthar Benameur</p> <p><i>Data Association for Object Enumeration Using Belief Function Theory</i> Wafa Rekik, Sylvie Le Hégarat-Masclé, Cyrille André, Abdelaziz Kallel, Roger Reynaud, and Ahmed Ben Hamida</p>



	<p><i>A Novel Methodology for Target Classification Based on Dempster-Shafer Theory</i> Hasan Ihsan Turhan, Mubeccel Demirekler, and Melih Gunay</p> <p><i>A New Parameterless Credal Method to Track-to-Track Assignment Problem</i> Samir Hachour, François Delmotte, and David Mercier</p>
12:10 – 13:30	Lunch
13:30 – 15:00	<p style="text-align: center;"><b>Panel Discussion</b> Chair: Fabio Cuzzolin</p> <p style="text-align: center;"><b>Title:</b> <i>“The future of belief functions in the context of uncertainty theory”</i></p>
15:00 – 16:20	<p style="text-align: center;"><b>Information Fusion</b> Chair: Joachim Clemens</p> <p><i>Multi-Sensor Fusion Using Evidential SLAM for Navigating a Probe through Deep Ice</i> Joachim Clemens and Thomas Reineking</p> <p><i>Belief Fusion of Predictions of Industries in China's Stock Market</i> Yongjun Xu, Lin Wu, Xianbin Wu, and Zhiwei Xu</p> <p><i>An Evidential Fusion Rule for Ambient Intelligence for Activity Recognition</i> Faouzi Sebbak, Farid Benhammedi, Sofiane Bouznad, Abdelghani Chibani, and Yacine Amirat</p> <p><i>Evidential Fusion for Sentiment Polarity Classification</i> Yaxin Bi</p>
16:20 – 16:50	Coffee break

16:50 – 17:50	<p style="text-align: center;"><b>Geometry</b> Chair: Anne-Laure Josselme</p> <p><i>Geometric Interpretations of Conflict: A Viewpoint</i> Thomas Burger</p> <p><i>Fast Computation of <math>L_p</math> Norm-Based Specialization Distances between Bodies of Evidence</i> Mehena Loudahi, John Klein, Jean-Marc Vannobel and Olivier Colot</p> <p><i>New Distance Measures of Evidence Based on Belief Intervals</i> Deqiang Han, Jean Dezert, and Yi Yang</p>
17:50 – 18:00	Closing Remarks