

# ISIPTA '15 Program

## Overview

### Monday 20 July

- 8:30–9:00 Registration
- 9:00–9:15 Opening
- 9:15–10:15 Invited Talk *Itzhak Gilboa*
- 10:45–11:40 Plenary Session: Statistical Inference
- 11:40–12:30 Poster Session
- 14:00–15:15 Plenary Session: Decision making
- 15:15–16:30 Poster Session
- 20:00–23:00 Welcome Party

### Tuesday 21 July

- 9:15–10:15 Tutorial *Barbara Vantaggi*
- 10:45–11:40 Plenary Session: Imprecise observations I
- 11:40–12:30 Poster Session
- 14:00–14:55 Plenary Session: Credal networks and algorithms
- 14:55–16:00 Poster Session
- 16:00–17:00 SIPTA General Meeting

### Wednesday 22 July

- 9:15–10:15 Invited Talk *Peter M. Williams*
- 10:45–11:40 Plenary Session: Imprecise observations II
- 11:40–12:30 Poster Session
- 14:00–15:15 Plenary Session: Coherence
- 15:15–16:30 Poster Session
- 16:45–19:45 Excursion

### Thursday 23 July

- 9:15–10:15 Tutorial *Gregory Wheeler*
- 10:45–11:40 Plenary Session: Stochastic processes
- 11:40–12:30 Poster Session
- 14:00–15:15 Plenary Session: Belief aggregation and belief functions
- 15:15–16:30 Poster Session
- 20:00–23:00 Conference Dinner and IJAR Award

### Friday 24 July

- 9:15–10:15 Invited Talk *Massimo Marinacci*
- 10:45–12:00 Plenary Session: Foundations
- 12:00–12:45 Poster Session
- 14:15–15:15 Poster prizes and Closing

## ISIPTA '15 Program for Monday 20 July

8:30–9:00 Registration

9:00–9:15 Opening

9:15–10:15 Invited Talk — Chair: *Teddy Seidenfeld*

*Itzhak Gilboa* — A unified model of inductive reasoning

10:15–10:45 Coffee Break

10:45–11:40 Plenary Session: Statistical Inference — Chair: *Marco Cattaneo*

Paper presentations (10+5 minutes each):

15 *Francesca Mangili* — A prior near-ignorance Gaussian process model for nonparametric regression

17 *Lewis Paton, Matthias C. M. Troffaes, Nigel Boatman, Mohamud Hussein* — A robust Bayesian analysis of the impact of policy decisions on crop rotations

31 *Mikēlis Bickis* — The geometry of imprecise inference

Poster-only presentations (1 minute each):

46 *Jelena Nedeljković, Michael Oberguggenberger* — Hyperbolic systems with random set coefficients

49 *Marco E. G. V. Cattaneo* — M-estimation with imprecise data

11:40–12:30 Poster Session

Posters for contributions 15, 17, 31, 46, 49

12:30–14:00 Lunch

14:00–15:15 Plenary Session: Decision making — Chair: *Matthias Troffaes*

Paper presentations (10+5 minutes each):

9 *Seamus Bradley* — How to choose among choice functions

27 *Arthur Van Camp, Gert de Cooman, Enrique Miranda, Erik Quaeghebeur* — Modelling indifference with choice functions

36 *Hailin Liu* — Common knowledge, ambiguity, and the value of information in games

39 *Giulianella Coletti, Davide Petturiti, Barbara Vantaggi* — Decisions under risk and partial knowledge modelling uncertainty and risk aversion

Poster-only presentations (1 minute each):

51 *Gero Walter, Christoph Jansen, Thomas Augustin* — Updated network analysis of the imprecise probability community based on ISIPTA electronic proceedings

53 *Jasper De Bock* — Convergence of continuous-time imprecise Markov chains

15:15–16:30 Poster Session

Posters for contributions 9, 27, 36, 39, 51, 53

20:00–23:00 Welcome Party

## ISIPTA '15 Program for Tuesday 21 July

9:15–10:15 Tutorial — Chair: *Fabio G. Cozman*

*Barbara Vantaggi* — De Finetti coherence and beyond

10:15–10:45 Coffee Break

10:45–11:40 Plenary Session: Imprecise observations I — Chair: *Thierry Denoeux*

Paper presentations (10+5 minutes each):

10 *Romain Guillaume, Didier Dubois* — Robust parameter estimation of density functions under fuzzy interval observations

12 *Thomas Fetz, Michael Oberguggenberger* — Imprecise random variables, random sets, and Monte Carlo simulation

20 *Julia Plass, Thomas Augustin, Marco E. G. V. Cattaneo, Georg Schollmeyer* — Statistical modelling under epistemic data imprecision: some results on estimating multinomial distributions and logistic regression for coarse categorical data

Poster-only presentations (1 minute each):

37 *Orakanya Kanjanatarakul, Thierry Denoeux* — Searching for the most plausible partition: an evidential reasoning approach to clustering

41 *Serena Doria, Iolanda Angelucci* — Bayesian updating based on Hausdorff outer measures and the role of emotions during the therapeutic phase of alliance

11:40–12:30 Poster Session

Posters for contributions 10, 12, 20, 37, 41

12:30–14:00 Lunch

14:00–14:55 Plenary Session: Credal networks and algorithms — Chair: *Sébastien Destercke*

Paper presentations (10+5 minutes each):

1 *Fabio Gagliardi Cozman, Denis Deratani Mauá* — On the complexity of propositional and relational credal networks

24 *Jirina Vejnárová* — Credal compositional models and credal networks

32 *Alessandro Antonucci, Giorgio Corani* — The multilabel naive credal classifier

Poster-only presentations (1 minute each):

43 *Teddy Seidenfeld, Mark J. Schervish, Joseph B. Kadane, Rafael Stern, Jessi Cisewski* — Radically elementary IP theory based on extensive measurement

14:55–16:00 Poster Session

Posters for contributions 1, 24, 32, 43

16:00–17:00 SIPTA General Meeting

## ISIPTA '15 Program for Wednesday 22 July

9:15–10:15 Invited Talk — Chair: *Gert de Cooman*

*Peter M. Williams* — Early approaches to exact imprecision

10:15–10:45 Coffee Break

10:45–11:40 Plenary Session: Imprecise observations II — Chair: *Michael Oberguggenberger*

Paper presentations (10+5 minutes each):

3 *Lev V. Utkin, Anatoly I. Chekh, Yulia A. Zhuk* — Classification SVM algorithms with interval-valued training data using triangular and Epanechnikov kernels

19 *Julia Plass, Paul Fink, Norbert Schöning, Thomas Augustin* — Statistical modelling in surveys without neglecting the undecided: multinomial logistic regression models and imprecise classification trees under ontic data imprecision

33 *Andrea Wiencierz, Marco E. G. V. Cattaneo* — On the validity of minimin and minimax methods for support vector regression with interval data

Poster-only presentations (1 minute each):

42 *Andrea Di Cencio, Serena Doria* — Probabilistic analysis of sutural lines developed in ammonites. An example: lower Jurassic Hammatocerataceae

44 *Erik Quaeghebeur, Chris Wesseling, Emma Beauvis-Aussalet, Teresa Piovesan, Tom Sterkenburg* — Eliciting sets of acceptable gambles — The CWI World Cup competition

11:40–12:30 Poster Session

Posters for contributions 3, 19, 33, 42, 44

12:30–14:00 Lunch

14:00–15:15 Plenary Session: Coherence — Chair: *Erik Quaeghebeur*

Paper presentations (10+5 minutes each):

7 *Serena Doria* — Coherent conditional measures of risk defined by the Choquet integral with respect to Hausdorff outer measures and dependent risks

13 *Renato Pelessoni, Paolo Vicig* — Weak consistency for imprecise conditional previsions

16 *Enrique Miranda, Marco Zaffalon* — Conformity and independence with coherent lower previsions

23 *Arthur Paul Pedersen, Gregory Wheeler* — Dilation, disintegrations, and delayed decisions

Poster-only presentations (1 minute each):

54 *Alexander Erreygers, Jasper De Bock, Gert de Cooman, Arthur Van Camp* — Optimal control of linear systems with quadratic cost and imprecise forward irrelevant input noise

58 *Milan Daniel* — An idea of consonant conflicts between belief functions

15:15–16:30 Poster Session

Posters for contributions 7, 13, 16, 23, 54, 58

16:45–19:45 Excursion

## ISIPTA '15 Program for Thursday 23 July

9:15–10:15 Tutorial — Chair: *Glenn Shafer*

*Gregory Wheeler* — Introduction to the philosophical foundations of imprecise probabilities

10:15–10:45 Coffee Break

10:45–11:40 Plenary Session: Stochastic processes — Chair: *Enrique Miranda*

Paper presentations (10+5 minutes each):

2 *Gert de Cooman, Jasper De Bock, Stavros Lopotatzidis* — A pointwise ergodic theorem for imprecise Markov chains

18 *Matthias C. M. Troffaes, Jacob Gledhill, Damjan Skulj, Simon Blake* — Using imprecise continuous time Markov chains for assessing the reliability of power networks with common cause failure and non-immediate repair

26 *Stavros Lopotatzidis, Jasper De Bock, Gert de Cooman* — Calculating bounds on expected return and first passage times in finite-state imprecise birth-death chains

Poster-only presentations (1 minute each):

47 *Eva Endres, Thomas Augustin* — Probabilistic graphical models for statistical matching

50 *Francesca Mangili, Alessio Benavoli, Giorgio Corani, Marco Zaffalon* — Bayesian nonparametric tests based on the imprecise Dirichlet process

11:40–12:30 Poster Session

Posters for contributions 2, 18, 26, 47, 50

12:30–14:00 Lunch

14:00–15:15 Plenary Session: Belief aggregation and belief functions — Chair: *Thomas Augustin*

Paper presentations (10+5 minutes each):

8 *Andrey G. Bronevich, Igor N. Rozenberg* — The generalization of the conjunctive rule for aggregating contradictory sources of information based on generalized credal sets

11 *Georg Schollmeyer* — On the number and characterization of the extreme points of the core of necessity measures on finite spaces

14 *Marco Baiocchi, Andrea Capotorti* — Efficient L1-based probability assessments correction: algorithms and applications to belief merging and revision

35 *Radim Jiroušek* — On two composition operators in Dempster-Shafer theory

Poster-only presentations (1 minute each):

45 *Erik Quaeghebeur* — Partial partial preference order orders

52 *Gero Walter, Frank P. A. Coolen, Simme Douwe Flapper* — System reliability estimation under prior-data conflict

15:15–16:30 Poster Session

Posters for contributions 8, 11, 14, 35, 45, 52

20:00–23:00 Conference Dinner and IJAR Award

## ISIPTA '15 Program for Friday 24 July

9:15–10:15 Invited Talk — Chair: *Serena Doria*

*Massimo Marinacci* — Model uncertainty

10:15–10:45 Coffee Break

10:45–12:00 Plenary Session: Foundations — Chair: *Renato Pelessoni*

Paper presentations (10+5 minutes each):

4 *Ignacio Montes, Sébastien Destercke* — Comonotone lower probabilities for bivariate and discrete structures

5 *Fabio Gagliardi Cozman* — Some remarks on sets of lexicographic probabilities and sets of desirable gambles

6 *Serena Doria* — Fully conglomerable coherent upper conditional prevision defined by the Choquet integral with respect to its associated Hausdorff outer measure

34 *Nenad Savić, Dragan Doder, Zoran Ognjanović* — A logic with upper and lower probability operators

Poster-only presentations (1 minute each):

48 *Christoph Jansen, Thomas Augustin* — Decision theory meets linear optimization beyond computation

55 *Stavros Lopatzidis, Jasper De Bock, Gert de Cooman* — Computational methods for imprecise continuous-time birth-death processes: a preliminary study of flipping times

12:00–12:45 Poster Session

Posters for contributions 4, 5, 6, 34, 48, 55

12:45–14:15 Lunch

14:15–15:15 Poster prizes and Closing