

6<sup>th</sup> International Workshop on Declarative/Decision/Hybrid  
Mining and Modelling for Business Processes

Claudio Di Ciccio  
Sydney, 10/09/2018

# Welcome to DeHMiMoP 2018!



In this workshop, we are interested in the application and challenges of

■ decision-based,                      ■ rule-based, and                      ■ hybrid

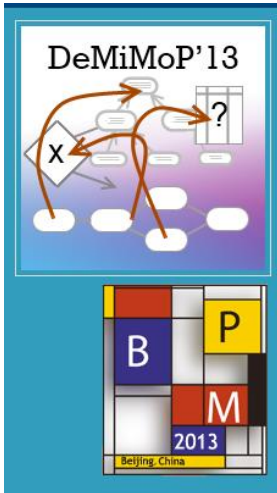
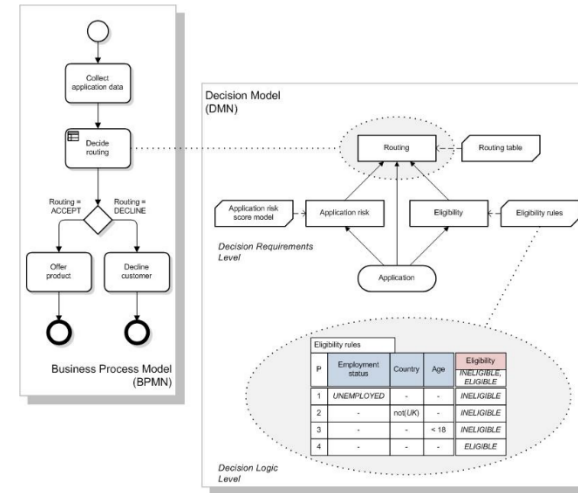
modelling in all phases of the BPM lifecycle:

■ identification,                      ■ discovery,                      ■ analysis,  
■ redesign,                      ■ implementation, and                      ■ monitoring.

# Est. 2013



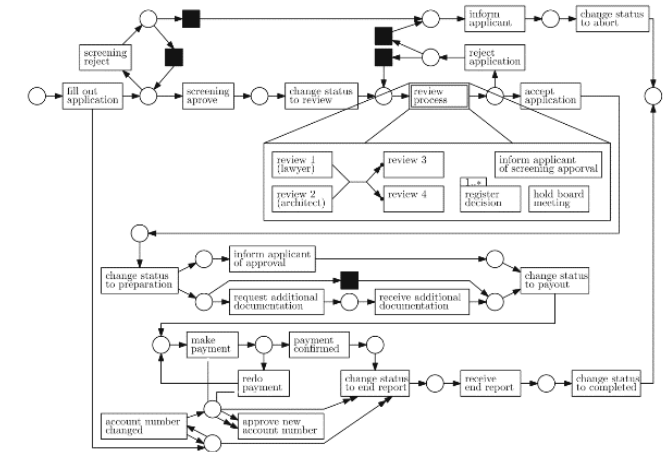
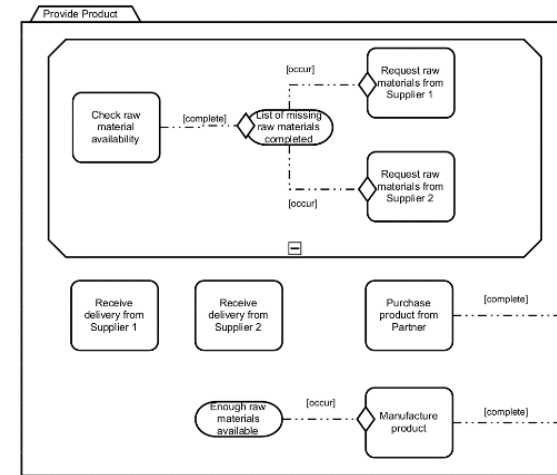
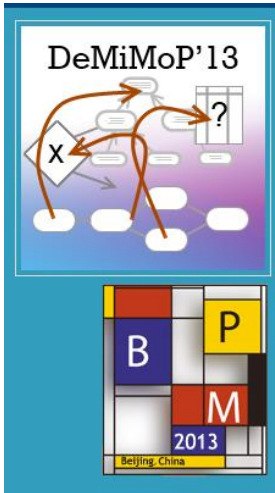
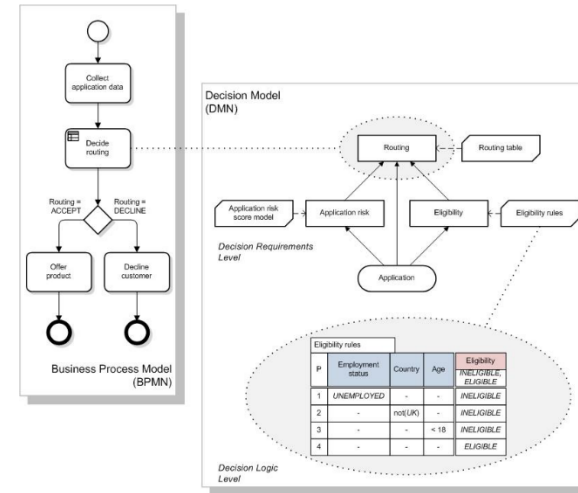
- Investigation on Knowledge-intensive Processes (KiPs)
  - Variability and flexibility
  - Involving decision processes & process decisions
  - What are the rules underneath?



# Est. 2013



- Investigation on Knowledge-intensive Processes (KiPs)
  - Variability and flexibility
  - Involving decision processes & process decisions
  - What are the rules underneath?
- From 2017 the *declarative* and *hybrid* approaches were added
  - and an “H” in the abbreviation too



# Pre-prints available on-line



Sixth Workshop on Declarative/Decision/Hybrid Mining and Modelling for Business Processes (DeHMIMoP 2018) - Chromium

Secure | <https://ai.wu.ac.at/dehmimop2018/>

DeHMIMoP About Submission Dates Programme People

## Programme

### Keynote

[Rik Eshuis](#), "Modeling Decision-intensive Processes with Declarative Business Artifacts"

Abstract

Modern business processes often need to support knowledge workers in making decisions about real-world business entities such as orders and quotes. Such decision-intensive processes are driven by data and require substantial flexibility. Business artifacts model data and process aspects of business entities in a holistic way and therefore are well suited to model data-driven processes. Declarative process models support flexible process executions. This makes declarative business artifacts a promising ingredient to support decision-intensive processes. However, there are several challenges that need to be overcome in order to support real-world decision-intensive processes with declarative business artifacts. This keynote speech discusses some of those challenges, illustrated with real-world scenarios, and discusses promising solutions to overcome them.

The keynote speaker

[Rik Eshuis](#) is Assistant Professor of Information Systems at Eindhoven University of Technology, The Netherlands. He received an M.Sc. degree with distinction and a Ph.D. degree in Computer Science from the University of Twente. He has been a visiting researcher at IBM Thomas J. Watson Research Centre in New York and at CRP Henri Tudor in Luxembourg. He was in 2009 the General Chair of the IEEE European Conference on Web Services (ECOWS). His main research interests is in data-driven business process management for knowledge and decision-intensive processes. He has published in various journals, e.g., Information Systems, Data & Knowledge Engineering, and IEEE Transactions on Software Engineering and conferences like BPM and ECIS. He is a member of the IEEE, the IEEE Computer Society, and the ACM.

### Timetable

Time	Event
14:00 – 14:10	Welcome
14:10 – 15:10	Keynote: <a href="#">Rik Eshuis</a> , "Modeling Decision-intensive Processes with Declarative Business Artifacts"
15:10 – 15:30	<a href="#">Amine Abbad Andaloussi</a> , <a href="#">Tijs Slaats</a> , <a href="#">Andrea Burattin</a> , <a href="#">Thomas Hildebrandt</a> and <a href="#">Barbara Weber</a> , "Evaluating The Understandability of Hybrid Process Models Using Eyetracking: First Insights"
15:30 – 16:00	Coffee break
16:00 – 16:30	<a href="#">Toon Jouck</a> , <a href="#">Massimiliano de Leoni</a> and <a href="#">Benoît Depaire</a> , "Generating Decision-Aware Models & Logs: Towards an Evaluation of Decision Mining"
16:30 – 17:00	<a href="#">Stephan Haarmann</a> , <a href="#">Kimon Batoulis</a> and <a href="#">Mathias Weske</a> , "Compliance Checking for Decision-Aware Process Models"
17:00 – 17:20	<a href="#">Piotr Wiśniewski</a> , <a href="#">Krzysztof Kluzka</a> and <a href="#">Antoni Ligeza</a> , "Towards Automated Process Modeling based on BPMN Diagram Composition"
17:20 – 17:50	<a href="#">Faruk Hasić</a> , <a href="#">Alexander De Craemer</a> , <a href="#">Thijs Hegge</a> , <a href="#">Gideon Magala</a> and <a href="#">Jan Vanthienen</a> , "Measuring the Complexity of DMN Decision Models"
17:50 – 18:00	Closing

## Generating Decision-Aware Models & Logs: Towards an Evaluation of Decision Mining

[Toon Jouck](#)<sup>1</sup>, [Massimiliano de Leoni](#)<sup>2</sup>, and [Benoît Depaire](#)<sup>1</sup>

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**Abstract.** During the last decade several decision mining techniques have been developed to discover the decision perspective of a process from an event log. The increasing number of decision mining techniques raises the importance of evaluating the quality of the discovered decision models and/or decision logic. Currently, the evaluations are limited because of the small amount of available event logs with decision information. To alleviate this limitation, this paper introduces the 'DataExtend' technique that allows to evaluate and compare decision-mining techniques with each other, using a sufficient number of event logs and process models to generate evaluation results that are statistically significant. This paper also reports on an initial evaluation using 'DataExtend' that involves two techniques to discover decisions, whose results illustrate that the approach can serve the purpose.

**Keywords:** decision mining; evaluation; log generation

### 1 Introduction

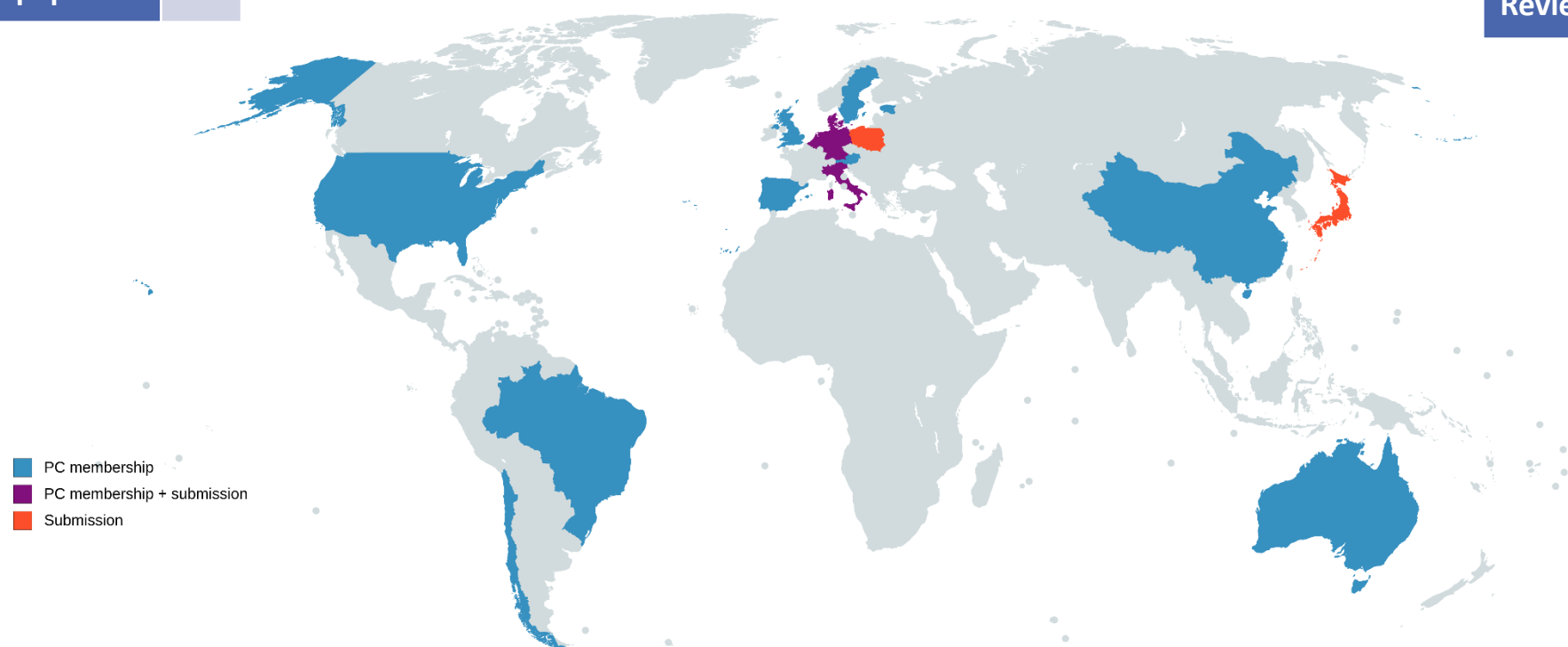
Automated process discovery from event logs has mainly focused on the control-flow perspective of processes. The control-flow perspective can be considered as the process backbone; however, many other perspectives should also be considered to ensure that the model is sufficiently accurate. The decision perspective (a.k.a. the data or case perspective) focuses on how the routing of process-instance executions is affected by the characteristics of the specific process instance, such as the amount requested for a loan, and by the outcomes of previous execution steps, e.g. the verification result. The representation of this decision perspective on a process in an integrated model or as separate tables is nowadays gaining momentum due to the introduction of the Decision Model and Notation (DMN) standard [1]. Decision mining focuses on discovering the decision perspective of a process from an event log. Some techniques (e.g. [23]) augment the routing decisions of a control-flow model with the decision logic induced from the data attributes in the event log. Other techniques (e.g. [15]) have focused on discovering a decision model in the form of a Decision Requirements Diagram (DRD).

# DeHMiMoP 2018



Submissions	8
Accepted short papers	2
Accepted full papers	3

PC members	32
Reviews	23
Reviews per paper	~3

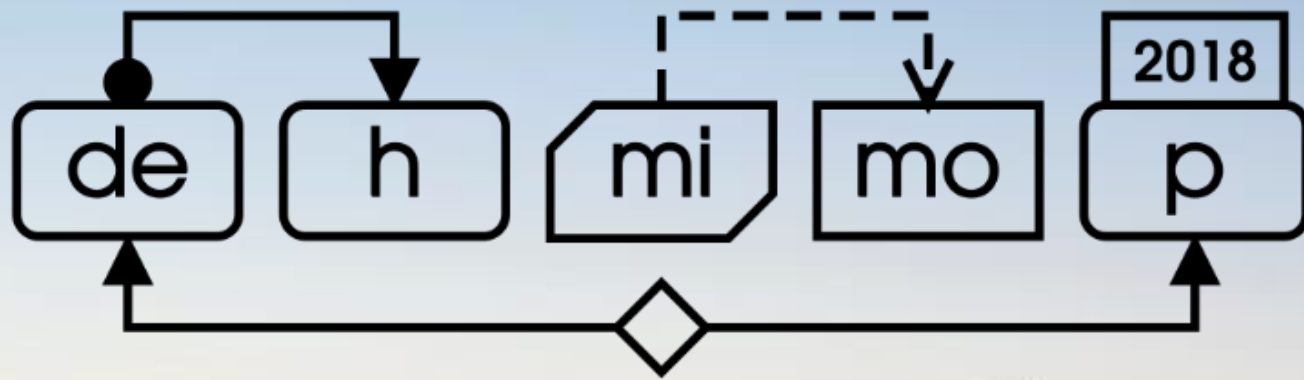


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# The programme



Time	Event	Session Chair
14:00 – 14:10	Welcome	C. Di Ciccio
14:10 – 15:10	Keynote: Rik Eshuis, “Modeling Decision-intensive Processes with Declarative Business Artifacts”	
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Keynote from Rik Eshuis:  
“Modeling Decision-intensive Processes  
with Declarative Business Artifacts”

Next