MARRAKECH
UNIVERSITÉ CADI AYYAD

جامعة محمد السادس
متعددة التخصصات التقنية
ⵜⴰⵙⴷⴰⵡⵉⵜ ⵎⵓⵃⵎⵎⴰⴷ ⵡⵉⵙ ⵚⴹⵉⵚ ⵏ ⵜⵉⵥⵓⵕⵉⵡⵉⵏ
MOHAMMED VI POLYTECHNIC UNIVERSITY
UNIVERSITÉ MOHAMMED VI POLYTECHNIQUE

MARRAKECH
جامعة القاضي عياض

كلــــــية العلوم
السملالية – مراكش
**FACULTÉ DES SCIENCES
SEMLALIA - MARRAKECH**

LISI
Laboratoire d'Ingénierie des
Systèmes Informatiques

8th International Conference on Model and Data Engineering (MEDI 2018)
24 - 26 October 2018, Marrakesh, Morocco

MEDI 2018
Conference Program & Events

CDRT
مركز التنمية لجهة تانسيفت
Centre de Développement de la Région Tensi
Marrakech - مراكش

**EMERGING
BUSINESS
Factory**

**Lecture Notes in
Computer Science**
LNCS   LNAI   LNBI

Springer

Tuesday October 23, 2018

14h00-21h00:   **Welcome reception and Registration**

Wednesday October 24, 2018

08:30   **Welcome reception and Registration**

08:30 - 09:00   **Opening Conference**   *(Room1)*

09:00 - 10:00   **Keynote: Professor Georg Gottlob, Oxford University, UK**   *(Room1)*
[Session Chair: Prof. Ladjel Bellatreche, ISAE-ENSMA, Poitiers, France]

Data Science with Vadalog: Bridging Machine Learning and Reasoning
Luigi Bellomarini, Ruslan Fayzrakhmanov, **Georg Gottlob**, Andrey Kravchenko, Eleonora Laurenza, Yavor Nenov, St´ephane Reissfelder, Emanuel Sallinger, Evgeny Sherkhonov and Lianlong Wu

10:00 – 10:30   **Coffee Break**

10:30 - 12:30   **MEDI – Session 1** (chair: PDA)   *(Room I)*
            Communication and Information Technologies

A Gamification and Objectivity based Approach to Improve Users Motivation in Mobile Crowd Sensing
Hasna Elalaoui Elabdallaoui, Abdelaziz El Fazziki, Fatima Zohra Ennaji and Mohamed Sadgal

Modeling and Evaluating Cross-Layer Elasticity Strategies in Cloud Systems
Khaled Khebbeb, Nabil Hameurlain and Faiza Belala

Thing Federation as a Service: Foundations and Demonstration
Zakaria Maamar, Khouloud Boukadi, Emir Ugljanin, Thar Baker, Muhammad Asim, Mohammed Al-Khafajiy and Djamal Benslimane

Formalizing Reusable Communication Models for Distributed Systems Architecture
Quentin Rouland, Brahim Hamid and Jason Jaskolka

12:30 – 14:00   **Lunch Break**

14:00 - 15:30   **MEDI – Session 2**   (chair: PDA)   *(Room I)*
            Databases

NoSQL Databases – Seek for a Design Methodology
Chaimae Asaad and Karim Ba¨ina

Mortadelo: A Model-Driven Framework for NoSQL Database Design
Alfonso de La Vega, Diego García-Saiz, Carlos Blanco, Marta Zorrilla and Pablo Sanchez

Towards OntoUML for Software Engineering: Experimental Evaluation of Exclusivity Constraints in Relational Databases
Zdenek Rybola and Michal Valenta

15:30 – 16:00   **Coffee Break**

16:00 - 18:30   MEDI – Session 3 (chair: PDA)   *(Room I)*
Algorithmic and Text Processing

Voronoi-Diagram based partitioning for distance join query processing in SpatialHadoop

Francisco Garcia-Garcia, Antonio Corral, Luis Iribarne and Michael Vassilakopoulos

Graph Pattern Matching Preserving Label-Repetition Constraints

Houari Mahfoud

Standard and Dialectal Arabic Text Classification for Sentiment Analysis

Mohcine Maghfour and Abdeljalil Elouardighi

Spatial Batch-Queries Processing using xBR+-trees in Solid-State Drives

George Roumelis, Michael Vassilakopoulos, Antonio Corral, Athanasios Fevgas and Yannis Manolopoulos

(Short Paper)   A graph-based model for tag recommendations in clinical decision support system

Sara Qassimi, El Hassan Abdelwahed, Meriem Hafidi and Rachid Lamrani

19:00 - …   Social Event around Marrakech & Dinner

09:00 - 10:00 **Keynote: Professor Mohamed Mosbah, Institut Polytechnique de Bordeaux (ENSEIRB-MATMECA), France** *(Room I)*
[Session Chair: Prof. Dominique Mery, LORIA, Nancy, France]

Modeling Distributed Algorithms by Local Computations with Applications
Mohamed Mosbah

10:00 - 11:00 **MEDI – Session 4** (chair: PDA) *(Room I)*
Data fusion, Classification and Learning
A new way of handling missing data in multi-source classification based on adaptive imputation
Ikram Abdelkhalek, Afef Ben Brahim and Nadia Essoussi

Feedback-Oriented Assessor Model. Application: Allocation of Submissions in Online Peer Assessment
Mohamed-Amine Abrache, Khalid Megder and Chihab Cherkaoui

11:00 – 11:30 **Coffee Break**

11:30 - 12:30 **MEDI – Session 5** (chair: PDA) *(Room I)*
Safety and Security
A Valid BPMN Extension for Supporting Security Requirements Based On Cyber Security Ontology
Mohamed El Amine Chergui and Sidi Mohamed Benslimane

A Correct-by-construction model for Attribute-Based Access Control
Hania Gadouche, Zoubeyr Farah and Abdelkamel Tari

12:30 – 14:00 **Lunch Break**

14:00 - 15:30 **MEDI – Session 6** (chair: PDA) *(Room I)*
Ontology and Model Driven Engineering
Adaptive Algorithms for Computing Ontologies Metrics through Processing of RDF Graphs
Jean Vincent Fonou Dombeu and Yannick Kazela Kazadi

CRank: A Novel Framework For Ranking Semantic Web Ontologies
Jean Vincent Fonou Dombeu and Serestina Viriri

(Short Paper) **Scrum and V lifecycle combined with Model-Based Testing and Model Driven Architecture to deal with Evolutionary System Issues**
Imane Essebaa and Salima Chantit

15:30 – 16:00 **Coffee Break**

16:00 - 17:30 **MEDI – Session 7** (chair: PDA) *(Room I)*
Specification, Verification and Validation (I)
Mechanizing the denotational semantics of the Clock Constraint Synchronization Language
Mathieu Montin and Marc Pantel

Ensuring the Functional Correctness of IoT through Formal Modeling & Verification
Samir Ouchani

(Short Paper) **Formalizing Railway Signaling System ERTMS/ETCS Using UML/Event-B**
Abderrahim Ait Wakrime, Rahma Ben Ayed, Simon Collart-Dutilleul, Yves Ledru and Akram Idani

17:30 - 19:00   **MEDI4SG**   (chair: PDA)   *(Room I)*

Gamification and serious games based learning for early childhood in rural areas

Rachid Lamrani, El Hassan Abdelwahed, Souad Chraibi, Sara Qassimi and Meriem Hafidi

Context-Based Sentiment Analysis: A survey

Oumayma El Ansari, Jihad Zahir and Hajar Mousannif

A Multi-Agent System-Based Distributed Intrusion Detection System for a Cloud Environment

Omar Achbarou, My Ahmed El Kiram, Outmane Bourkoukou and Salim Elbouanani

19:30 - …   **Social Event & Gala Dinner "Riad Dar Salam"**

09:00 - 10:30 **MEDI – Session 8** (chair: PDA) *(Room I)*
Specification, Verification and Validation (II)

A Dynamic Analysis for Reverse Engineering of Sequence Diagram Using CPN
Chafik Baidada, El Mahi Bouziane and Abdeslam Jakimi

Domain-oriented Verification Management
Vincent Leilde, Vincent Ribaud, Ciprian Teodorov and Philippe Dhaussy

A Formal Model for Interaction Specification and Analysis in IoT Applications
Souad Marir, Faiza Belala and Nabil Hameurlain

10:30 – 11:00 **Coffee Break**

11:00 - 12:00 **MEDI – Session 9** (chair: PDA) *(Room I)*
Specification, Verification and Validation (III)
Three Extensions to Hybrid Event-B to Support Rigorous Development of Cyber-Physical Systems
Klaus-Dieter Schewe

(Short Paper) **A Formalized Procedure for Database Horizontal Fragmentation In Isab elle/HOL Pro of Assistant**
Salmi Cheikh, Chaabani Mohamed and Mezghiche Mohamed

12:00 **Closure**

12:30 – 14:30 **Lunch Break**

Conference Schedule and Events

Tuesday October 23, 2018		Wednesday October 24, 2018
	08H30-09H00	Welcome Reception - Opening
	09H00-10H00	Keynote Professor Georg Gottlob Room I
	10H00-10H30	Coffee Break
	10H30-12H30	MEDI S1 Room I
	12H30-14H00	Lunch Break
Welcome Reception - Opening	14H00-15H30	MEDI S2 Room I
	15H30-16H00	Coffee Break
	16H00-18H30	MEDI S3 Room I
	19H00 - …	Social Event Around Marrakech & Dinner

Thursday October 25, 2018	
09H00-10H00	Keynote Professor Mohamed Mosbah Room I
10H00-11H00	MEDI S4 Room I
11H00-11H30	Coffee Break
11H30-12H30	MEDI S5 Room I
12H30-14H00	Lunch Break
14H00-15H30	MEDI S6 Room I
15H30-16H00	Coffee Break
16H00-17H30	MEDI S7 Room I
17H30-19H00	MEDI4SG Room I
19H30 - …	Social Event Around Marrakech & Gala Dinner

Friday October 26, 2018	
09H00-10H30	MEDI S8 Room I
10H30-11H00	Coffee Break
11H00-12H00	MEDI S9 Room I
12H00	Closure
12H30-14H30	Lunch Break