

C³S²E



Proceedings of
C3S2E'14 August 4-6, 2014
Montreal, QC, Canada



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Preface

C³S²E'14 is the seventh annual meeting in this conference series and is hosted by Concordia University, Montreal between August 4 and 6, 2014. The conference aims to address the current and future needs of the academic community in computer science and software engineering. It also serves as a platform to present new findings on theoretical or practical aspects of computer science and software engineering, share experiences on integrating new technologies into products and applications, discuss the work on applying computing and software engineering to real-life situations, update the development and operations of challenging computing related systems, and identify unsolved challenges.

C³S²E'14 continues to keep to the tradition for inviting international experts in various areas of computer science and software engineering to join our program committee. This committee has done an excellent job in completing the single-blind review and on-line double-blind debate processes in record time. The paper selection process was thorough and competitive. On average, each paper was refereed by at least three reviewers. About 81% of reviews were submitted by the due date and about 3.4 reviews were received for each paper. From the submissions, 15 were selected as full and 11 as short papers. This allowed us to maintain a standard of high quality with full paper acceptance of 24% and a further 18% for the short papers.

This conference would not have been possible without the help and effort of many people and organizations. Thanks are owed to ACM(Anna Lacson, Craig Rodkin, Deborah Cotton), BytePress/ConfSys.org, and Concordia University(CSE, ENCS, Financial services), for their support of this conference. We are grateful to members of the Program Committee for their professionalism and dedication in the process of judging the contributions of papers and producing constructive comments to the authors.

Bipin C Desai
Montreal, August 2014



C³S²E'14 Final Program

Session: Registration 1

Date Time:	2014-08-04 From 09:30 To 15:30
Location:	EV2-184
Chair:	Jianhui Zhu

Morning Coffee

Date Time:	2014-08-04 From 9:30 To 10:20
Location:	EV2-184

Session: Opening

Date Time:	2014-08-04 From 10:25 To 10:30
Location:	EV3-309
Chair:	Bipin C. Desai

Session: Software engineering

Date Time:	2014-08-04 From 10:30 To 12:30
Location:	EV3-309
Chair:	Joey Paquet

-- [Classification and Generation of Grammatical Errors \(Full Paper\)](#)

Anthony Penniston, Eric R. Harley

-- [Verification and Code Generation for Timed Transitions in pCharts \(Full Paper\)](#)

Bojan Nokovic, Emil Sekerinski

-- **Software Specification and Automatic Code Generation to Realize Homeostatic Adaptation in Unmanned Spacecraft (Full Paper)**

Carlos C. Insaurralde, Emil Iordanov Vassev

Lunch 1

Date Time: 2014-08-04 From 12:30 To 13:40

Location: EV2-184

Session: Computer security

Date Time: 2014-08-04 From 13:40 To 15:00

Location: EV3-309

Chair: Serguei A. Mokhov

-- **Toward Automated MAC Spoofer Investigations (Short Paper)**

Serguei A. Mokhov, Michael J. Assels, Joey Paquet, Mourad Debbabi

-- **Binary Linear Programming-based Release Planning for Multi-tenant Business SaaS (Full Paper)**

Mubarak Rashed Alrashoud, Lubaid Ahmed, Abdolreza Abhari

-- **On the Dynamic Scheduling of Task Farm Patterns on a Heterogeneous CPU-GPGPU Environment (Full Paper)**

Wei Zhang, Dhrubajyoti Goswami, Bahareh Goodarzi

Coffee Break 2

Date Time: 2014-08-04 From 15:00 To 15:30

Location: EV2-184

Session: Data Models

Date Time: 2014-08-04 From 15:30 To 16:45

Location: EV3-309

Chair: Hovhannes A Harutyunyan

-- **Application of PR Techniques to Mail Sorting in China (Full Paper)**

Li Liu, Shujing Lu, Yue Lu, Ching Y. Suen

-- **Finding Periodic Regularities on Sequential Data: Converging, Diverging and Cyclic Patterns (Short Paper)**

António Carlos Barreto, Cláudia Antunes

-- **A new conceptual model for dynamic text clustering Using unstructured text as a case (Full Paper)**

Choukri Djellali

Reception

Date Time: 2014-08-04 From 17:00 To 19:00

Location: EV4-101

Session: Registration 2

Date Time: 2014-08-05 From 09:00 To 15:30

Location: EV2-184

Chair: Jianhui Zhu

Session: Invited Talk:

Automatic Analysis and Quantification of High-content Biological Images,

Jie Zhou

Dr. Jie Zhou is an Associate Professor of Computer Science at Northern Illinois University, USA. Her main research interests include pattern recognition algorithms and applications in biomedicine. She is a senior member of the IEEE. She is an associate editor and editorial board member of the Pattern Recognition Journal. She has been a reviewer of many journals and conferences in the field and has given talks at various international institutes and conferences. Her research is supported by Northern Illinois University, Burroughs Wellcome Foundation, and National Institute of Health, USA.

Date Time: 2014-08-05 From 09:15 To 10:30

Location: EV3-309

Chair: Ching Y. Suen

Coffee Break 3

Date Time: 2014-08-05 From 10:30 To 11:00

Location: EV2-184

Session: Algorithms

Date Time: 2014-08-05 From 11:00 To 12:15

Location: EV3-309

Chair: Emil Iordanov Vassev

-- **[New Properties for Broadcasting in \$KG_2^k\$ \(Full Paper\)](#)**

Sirma Cagil Altay, Hovhannes Harutyunyan

-- **[Cloud BI for Virtual Organizations \(Full Paper\)](#)**

Jorge Bernardino, Ana Maria Almeida, Joel Ricardo

-- **[Formalizing eMobility with KnowLang \(Full Paper\)](#)**

Emil Iordanov Vassev, Nicklas Hoch, Henry Bensler, Mike Hinchey

Lunch 2

Date Time: 2014-08-05 From 12:30 To 13:30

Location: EV2-184

Session: Topics in CSE

Date Time: 2014-08-05 From 13:30 To 15:00

Location: EV3-309

Chair: Ana Maria Almeida

-- **Identifying Questions & Requests in Conversation (Full Paper)**

Kevin Quinn, Osmar Zaiane

-- **Toward Policy-Based Dynamic Context-Aware Adaptation Architecture for Web Service Composition (Short Paper)**

Touraj Laleh, Arash Khodadadi, Serguei A. Mokhov, Joey Paquet, Yuhong Yan

-- **Using Category Theory and Data Flow Analysis for Modeling and Verifying Properties of Communications in the Process-Oriented Language**

Erasmus (Short Paper)

Ming Zhu, Peter D Grogono, Olga Ormandjieva, Pankaj Kamthan

-- **Exploring the diameter and broadcast time of general Knödel graphs using extensive simulations (Short Paper)**

Gul Bahar Oad, Hovhannes A Harutyunyan

Coffee Break 4

Date Time: 2014-08-05 From 15:00 To 15:30

Location: EV2-184

Session: Data mining

Date Time: 2014-08-05 From 15:30 To 16:10

Location: EV3-309

Chair: Lino Figueiredo

-- **Method for the Evaluation of Open Source Software Quality from an IT Untrained User Perspective (Short Paper)**

Jonathan Roy, Clément Contini, François Brodeur, Ndiack Diouf, Witold Suryn

-- **Open Source CRM Systems for SMEs (Short Paper)**

Diogo Cardoso Sampaio, Jorge Bernardino

Private Guide Tour - FABERGÉ: Jeweller to the Czars

Meet at MMFA 1379 Sherbrooke St. W just before 4:50 PM.

The museum is walking distance from the EV building.

Date Time: 2014-08-05 From 16:45 To 18:00

Location: MMFA 1379 Sherbrooke St. W., Montréal

C3S2E14 - Dinner

Club Atwater, 3505 Avenue Atwater, Montréal

The club is walking distance from the EV building and the museum.

Date Time: 2014-08-05 From 18:30 To 21:30

Location: Club Atwater, 3505 Avenue Atwater, Montréal

Session: Virtual Presentations Virtual presentation for authors who could not travel for personal or ecological reasons.

Date Time:	2014-08-06 From 10:30 To 13:00
Location:	EV3-309
Chair:	Bipin C. Desai

IF THE PRESENTATION FOR A PAPER WAS NOT UPLOADED BY THE DEADLINE, IT WOULD HAVE TO BE SKIPPED

-- **Graph Data Transformations and Querying (Short Paper)**

Maria C. Pabon, Claudia Roncancio, Martha Millán

-- **Proposed architecture and algorithm for academic personnel evaluation and decision support making (Short Paper)**

Dimitrios Tomtsis, Sotirios Kontogiannis, George Kokkonis, Ioannis Kazanidis, Stavros Valsamidis

-- **Label-bag based Graph Anonymization via Edge Addition (Full Paper)**

Chongjie Li, Toshiyuki Amagasa, Hiroyuki Kitagawa, Gautam Srivastava

-- **EFFICIENT AND ROBUST CONSTRAINT AUTOMATON-BASED GENOME ASSEMBLY (Full Paper)**

Peter Z. Revesz, Dipty Singh

-- **A Design Time Estimation Methodology for Spatial Databases (Short Paper)**

Giuseppe Polese, Monica Sebillio

-- **An Alternative View of Fairness in Petri Nets (Short Paper)**

Martin Ibl

-- **A Robust Daily Human Activity Recognition and Prediction System (Full Paper)**

Md Zia Uddin

-- **FDKeeper: A Quick and Open Failure Detector for Cloud Computing System (Full Paper)**

Fengwei Wang, Hai Jin, Deqing Zou, Weizhong Qiang

-- **Adaptive composition of services in context-aware ambient intelligent systems (Short Paper)**

Chaib Aouatef, Imane Boussebough, Allaoua Chaoui

