25th International Conference on

Software Engineering
and Data Engineering
(SEDE-2016)

PROGRAM

September 26-28, 2016

Marriott Tech Center
Denver, Colorado, USA

Sponsored by

International Society for
Computers and Their Applications

64 White Oak Court
Winona, MN  55987

Phone: (507) 458-4517; E-mail: isca@isca-hq.org; website: www.isca-hq.org
SPONSOR

International Society for Computers and Their Applications (ISCA)

General Chair: Frederick C. Harris Jr., University of Nevada, Reno, USA

Program Chair: Sergiu Dascalu, University of Nevada, Reno, USA
Yan Shi, University of Wisconsin-Platteville, USA

International Program Committee

Taufik Abidin
Cristian Barria
Riad Belkhair
Ghassan Beydoun
Peter Bodorik
Arnold Boedihardjo
Cagatay Catal
Cesar A. Collazos
Jonathan Corley
Stuart Cunningham
Liliana Dobrica
Brian Eddy
Ivan Gibbs
Jeff Gray
Vic Grout
Xudong He
Nic Herndon
Alan Hevner
Norbert Jastroch
Jalal Karam
Nicolas Karam
Marin Litoiu
Cristina Luca
German Montejano
Muhanna Muhanna
Yan Qiang
Juan Quiroz
Claudia Raibulet
Shivani Rao
Carlos R. Rivero
Cristian Rusu
Ershad Sharifahmadian
Sharad Sharma
Pierre Tiako
Stefan Trausan-Matu
Yaakov Varol
Yong Wang
Rui Wu
Lidong Wu
Christoph Wunck
Lei Yang
Songqing Yue
Amir Zeid

Syiah Kuala University, Indonesia
Pontificia Universidad Católica de Valparaíso, Chile
University of Grenoble-Alpes, France
University of Wollongong, Australia
Dalhousie University, Canada
Army Corps of Engineers, USA
Istanbul Kultur University, Turkey
Universidad del Cauca, Colombia
University of West Georgia, USA
Glyndwr University, Wales
University Politehnica of Bucharest, Romania
University of West Florida, USA
Psychemedics, USA
University of Alabama, USA
Glyndwr University, Wales
Florida International University, USA
Kansas State University, USA
University of South Florida, USA
MET Communications GmbH, Germany
Emirates College for Advanced Education, Abu Dhabi, UAE
American University of Beirut, Lebanon
York University, Canada
Anglia Ruskin University, England
Universidad Nacional de San Luis, Argentina
Princess Sumaya University for Technology, Jordan
Taiyuan University of Technology, China
Sunway University, Malaysia
University of Milano-Bicocca, Italy
Box, USA
Rochester Institute of Technology, USA
Pontificia Universidad Católica de Valparaíso, Chile
University of Houston, Clear Lake, USA
Bowie State University, USA
Langston University, USA
University Politehnica of Bucharest, Romania
University of Nevada, Reno, USA
Texas A&M University, USA
University of Nevada, Reno, USA
University of Texas at Tyler, USA
Jade University of Applied Sciences, Germany
University of Nevada, Reno, USA
University of Central Missouri, USA
American University of Kuwait, Kuwait
Monday, September 26

8:00 a.m. – 4:00 p.m. REGISTRATION – Peak Foyer
8:00 a.m. – 9:00 a.m. Coffee, Tea and Pastries – Peak Foyer
8:40 a.m. – 9:00 a.m. WELCOME - Pikes Peak Room
    Gongzhu Hu, CAINE Conference Chair
    Frederick Harris, SEDE Conference Chair

9:00 a.m. – 10:00 a.m. KEYNOTE SPEAKER
    Dr. Tracy Camp
    Colorado School of Mines, USA
    "Implementing a Wireless Geophysical Sensor Network"
    Location: Pikes Peak Room
    Session Chair: Dr. Takaaki Goto, Ryutsu Keizai University, Japan

10:00 a.m. – 10:30 a.m. COFFEE BREAK

SOFTWARE ENGINEERING I
Monday September 26, 10:30 a.m. - 12:00 p.m., Blanca Peak Room
Session Chair: Frederick C. Harris, Jr. (University of Nevada, Reno)

   Utkarsh Goel, James Espeland, Upulee Kanewala, and Mike P. Wittie (Montana State University)

2. Privacy Engineering with PAWS: Injecting RESTful Privacy Web Services
   Peter Bodorik (Dalhousie University, Canada), Dawn Jutla, and Ajith Bryn (Saint Mary’s University, Canada)

   Jose T. Painumkal, Sankeerth Ankam, Sergiu Dascalu, and Frederick C. Harris, Jr. (University of Nevada, Reno)

4. A Framework to Assess the Effectiveness of Quality Assessment Model Developed Using Class Level Metrics
   Lov Kumar (NIT Rourkela), Santanu Kumar Rath (Curtin University), Swapan Bhattacharya (NIT Rourkela) and Aneesh Krishna (Jadavpur University, Kolkata)

12:00 p.m. – 1:30 p.m. LUNCH BREAK ON YOUR OWN
Session B2:  
DATA ENGINEERING I  
Monday September 26, 1:30 p.m. – 3:00 p.m., Blanca Peak Room  
Session Chair: Peter Bodorik (Dalhousie University, Canada)

1. Efficient Physical Register File Allocation with Thread Suspension for Simultaneous Multi-Threading Processors  
Wenjun Wang and Wei-Ming Lin (The University of Texas at San Antonio)

2. Floating-Point Data Compression Using Improved GFC Algorithm  
Rui Wu, Sergiu Dascalu, Lee Barford and Frederick Harris (University of Nevada, Reno)

3. Active XACML: An Active Rule-Based System for Security Policies  
Ying Jin and William Chan (California State University, Sacramento)

4. Data Analysis Performance Comparison between Single-Mode and Multi-Mode  
Sungchul Lee, Ju-Yeon Jo and Yoohwan Kim (University of Nevada, Las Vegas)

3:00 p.m. – 3:30 p.m. COFFEE BREAK

Session B3:  
INTERDISCIPLINARY STUDIES ON SOFTWARE AND DATA ENGINEERING  
Monday September 26, 3:30 p.m. – 5:00 p.m., Blanca Peak Room  
Session Chair: Ajay Bandi (Northwest Missouri State University)

5. A First Look at Web Browsing Predictions using DNS Logs  
Utkarsh Goel, Clint Cooper, Brittany T. Fasy and Mike P. Wittie (Montana State University)

Vinh Le, Terence Henriod, Eric Fritzinger, Frederick C. Harris, Jr. and Sergiu Dascalu (University of Nevada, Reno)

7. A High-throughput, Web-based Tool to Determine Protein Hydrogen Bond Number  
Sunil Gupta, Jiaofei Zhong and Tyler Evans (California State University East Bay)

8. Rewind: A Transcription Method and Website  
Chase Carthen, Vinh Le, Richard Kelley, Tomasz Kozubowski and Frederick C. Harris, Jr. (University of Nevada, Reno)
8:00 a.m. – 4:00 p.m.  REGISTRATION –  Peak Foyer
8:00 a.m. – 9:00 a.m.  Coffee, Tea and Pastries – Peak Foyer

9:00 a.m. – 10:00 a.m.  KEYNOTE SPEAKER

Dr. Marin Litoiu
York University, Canada
“Engineering Model-based Adaptive Software Systems”
Location: Pikes Peak Room
Session Chair: Dr. Sergiu Dascalu, University of Nevada, Reno

10:00 a.m. – 10:30 a.m.  COFFEE BREAK

SOFTWARE ENGINEERING II
Tuesday September 27, 10:30 a.m. - 12:00 p.m., Blanca Peak Room
Session Chair: Saleh Mohamed Alnaeli (University of Wisconsin-Colleges)

   Lerina Aversano and Maria Tortorella (University of Sannio, Italy)

2. Encryption on Course Management System Using Rijndael Algorithm
   Francis Onodueze and Sharad Sharma (Bowie State University)

3. Developers’ Perspectives on Architecture Violations: A Survey
   Ajay Bandi (Northwest Missouri State University)

4. Design and Implementation of a Procedural Content Generation Web Application for Vertex Shaders
   Juan Quiroz (Sunway University) and Sergiu Dascalu (University of Nevada, Reno)

12:00 p.m. – 1:30 p.m.  CONFERENCE LUNCHEON
AND BEST PAPER AWARDS

LOCATION: Evergreen E and F Rooms
DATA ENGINEERING II
Tuesday September 27, 1:30 p.m. – 3:00 p.m., Blanca Peak Room
Session Chair: Wendy Osborn (University of Lethbridge, Canada)

1. The Area Code Tree for Approximate Nearest Neighbour Search in Dense Point Sets
   Fatema Rahman and Wendy Osborn (University of Lethbridge, Canada)

2. Continuous Region Query Processing in the mqr-tree
   Wendy Osborn (University of Lethbridge, Canada)

3. Analyzing Patterns of Scientific Collaboration using Centrality Measures and Modularity
   Adeel Ahmed, Khalid Saleem (Quaid-i-Azam University, Pakistan) and Mubashar Mushtaq
   (Forman Christian College University, Pakistan)

4. A Bulk-Loading Algorithm for the BoND-Tree Index Scheme for Non-ordered Discrete Data Spaces
   Dong-Yoon Choi, AKM Tauhidul Islam, Sakti Pramanik (Michigan State University) and
   Qiang Zhu (University of Michigan)

3:00 p.m. – 3:30 p.m. COFFEE BREAK

SOFTWARE ENGINEERING III
Tuesday September 27, 3:30 p.m. – 5:00 p.m., Blanca Peak Room
Session Chair: Narayan Debnath (Winona State University)

1. Empirically Identifying the Challenges in Parallelizing Scientific Software Systems
   Saleh Mohamed Alnaeli (University of Wisconsin-Colleges), Melissa Sarnowski, Calvin
   Meier (University of Wisconsin-Fox Valley) and Mark Hall (University of Wisconsin-
   Colleges)

2. An Intelligent Tester: Automated Test Generation and Test Execution through Machine
   Learning and Natural Language Processing
   Christopher Bischke, Yue Fung Choy, Ejiroghene Urhiafe and John DiBenedetto
   (Raytheon)

3. Software Design: towards a meta-architecture to support decision making in the definition of
   Software Architecture
   Luis Roqué Fourcade, Liliana Arakaki, Daniel Riesco, Germán Montejano (Universidad
   Nacional de San Luis, Argentina) and Narayan Debnath (Winona State University)

4. Improving Software Engineer Performance in a Cyber-defense Context
   Narayan Debnath (Winona State University), Roberto Uzal, Daniel Riesco, Germán
   Montejano, Walter Agüero, Claudio Baieli (Universidad Nacional de San Luis,
   Argentina), Ilhyun Lee and Haesun Lee (University of Texas of the Permian Basin)
8:00 a.m. – 10:00 p.m.  REGISTRATION – Peak Foyer
8:00 a.m. – 8:30 a.m.  Coffee, Tea and Pastries – Peak Foyer

DATA ENGINEERING III
Wednesday September 28, 8:30 a.m. - 10:00 a.m., Pikes Peak Room
Session Chair: Juan Quiroz (Sunway University, Malaysia)

1. Pakistan Genetic Disease Database
   Adeel Ahmed, Khalid Saleem (Quaid-i-Azam University, Pakistan) and Mubashar Mushtaq (Forman Christian College University, Pakistan)

2. Traffic Collision Analysis in Edmonton, Alberta, Canada: A CASE STUDY
   Mohamad El-Hajj, Lee Josh Humeniuk, Winston Kouch and Stephen Adeniji (MacEwan University, Canada)

3. Using Offender Information to Predict Candidates for Parole
   James Clarke, Curtis Everitt, Derrick Gold and Mohamad El-Hajj (MacEwan University, Canada)

4. Generic Error Identification in Data Sets
   Nadia El Bekri and Elisabeth Peinsipp-Byma (Fraunhofer Institute for Optronics, System Technologies and Image Exploitation, Germany)