

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

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Winona, MN 55987

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# 25th International Conference on Software Engineering and Data Engineering (SEDE-2016)

## SPONSOR

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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

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Amir Zeid	American University of Kuwait, Kuwait

**Monday, September 26<sup>th</sup>**

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**

**SESSION B1:**

**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)

- 1. Quality Assurance of a Mobile Network Measurement Testbed Through Systematic Software Testing**  
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)
- 3. Comparative Evaluation of NRDC Web Portal Using Automated Tools**  
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)
6. **A Web Interface Usability Evaluation of a Public Collaborative Data Portal**  
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)

**Tuesday, September 27, 2016\***

**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**

**SESSION B4:**

**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)

- 1. An Empirical Study on the Software Quality Evolution Trends of Open Source Software Projects**  
Lerina Aversano and Maria Tortorella (University of Sannio, Italy)
- 1. Encryption on Course Management System Using Rijndael Algorithm**  
Francis Onodueze and Sharad Sharma (Bowie State University)
- 2. Developers' Perspectives on Architecture Violations: A Survey**  
Ajay Bandi (Northwest Missouri State University)
- 3. 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**

**SESSION B5:****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**

**SESSION B6:****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 Urhiae 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)

**Wednesday, September 28, 2016**

**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**

**SESSION C7:**

**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)