IEEE CIC Conference Day 1: Tuesday, Nov 1, 2016

8am-		Conference R	_				
5:30pm		(Conference Registration Des					
7:30-		Informal Meet & G					
8:30am		(Ballroom	• ,				
8:30-		Welcome, Conference					
8:45am		(Symphony Ballroom)					
8:45-	Keynote 1: Mahadev Satyanarayanan(Satya) Carnegie Group Professor of Computer Science, CMU, USA						
9:45am	Edge Computing: Vision and Challenges						
	(Symphony Ballroom)						
9:45-10am		Break (Symp)	hony Foyer)				
10am- 12noon	Session 1 Collaboration (Symphony Ballroom B) Chair: Dimitrios Georgakopoulos RMIT University, Australia	Session 2 Access Control (Symphony Ballroom C) Chair: Anna Squicciarini, PennState	International Workshop on Collaborative Internet Computing for Disaster Management (CIC-DM) (Jimmy Stewart) Chairs: Yu-Ru Lin; Vladimir Zadorozhny; Ole-Christoffer Granmo	International Workshop on Internet-scale Clouds and Big Data (ISCBD) + Workshop on Trusted Collaboration Workshop (August Wilson) Chairs: Balaji Palanisamy; Lakshmish Ramaswamy, Hongxin Hu			
12:00am- 1:30pm	Lunch (Symphony A)						
1:30pm - 2:30pm	Keynote 2: Raj Jain Cox Professor of CS&E, Washington University in St. Louis, USA Multi-Cloud Global Application Delivery for Internet of Things and Smart Cities (Symphony Ballroom)						
2:30pm - 2:45pm	Break (Symphony Foyer)						
2:45- 4:45pm	Session 3 Privacy (Symphony Ballroom B) Chair: Maheswaran Muthukumaru, McGill University	Session 4 Data Security (Symphony Ballroom C) Chair: Amir Masoumzadeh, SUNY at Albany	International Workshop on Collaborative Internet Computing for Disaster Management (CIC-DM) (Jimmy Stewart) Chairs: Yu-Ru Lin; Vladimir Zadorozhny; Ole-Christoffer Granmo				
5:30-8:30 pm	Reception Dinner Reception Keynote: Rasu Shrestha Chief Innovation Officer, University of Pittsburgh Medical Center, Executive Vice President of UPMC Enterprises, USA The Innovation Imperative in Healthcare: Collaboration and intelligent computing as a framework for the future of care (Symphony A)						

IEEE CIC Conference Day 2: Wednesday, Nov 2, 2016

8am-	Conference Registration					
5:30pm		(Conference Registration Desk				
7:30-		Informal Meet & Gre	et – Breakfast			
8:45am	(Ballroom Foyer)					
8:45- 9:45am	Keynote 3: Aidong Zhang, Distinguished Professor, SUNY Buffalo & NSF PD – IIS Computing with Communities in Internet and Social Networks (Symphony Ballroom)					
9:45-10am		Break (Symphony Foyer)				
10am- 12noon	Session 5 Cloud & Internet (Symphony Ballroom B) Chair: Surya Nepal, Data61, CSIRO	Session 6 Web Security & Privacy (Symphony Ballroom C) Chair: Aibek Musaev Georgia Institute of Technology	IEEE International Workshop on Privacy in Collaborative & Social Computing (PiCSoC) (Jimmy Stewart) Chairs: Elena Ferrari; Barbara Carminati; Amir Masoumzadeh	Tutorial: Internet of Things (IoT): Security Issues and Challenges Prashant Krishnamurthy University of Pittsburgh, USA (August Wilson)		
12noon - 1:30pm	Lunch (Symphony A)					
1:30 - 2:30	Keynote 4: Scharam Dustdar Professor of CS, Head of Distributed Systems Group, TU, Vienna Elastic Computing - A Novel Paradigm for Distributed Systems (Symphony Ballroom)					
2:30- 2:45		Break (Symphon	ny Foyer)			
2:45- 4:45pm	Session 7 Distributed Processing (Symphony Ballroom B) Chair: Mohamed Eltoweissy, Virginia Military Institute	Session 8 Twitter & Sentiments (<i>Symphony Ballroom C</i>) Chair: Balaji Palanisamy, University of Pittsburgh	IEEE International Workshop on Privacy in Collaborative & Social Computing (PiCSoC) (Jimmy Stewart) Chairs: Elena Ferrari; Barbara Carminati; Amir Masoumzadeh			
5:30- 9:30pm	Banquet/Social Dinner & Awards Ceremony Le Mont Restaurant, Mt. Washington, Pittsburgh (Bus will arrive at 5:30PM – depart by 5:45PM)					

IEEE CIC Conference Day 3: Thursday, Nov 3, 2016

8am-5pm	Conference Registration				
-	(Conference Registration Desk at Second Floor Foyer) Informal Meet & Greet – Breakfast				
7:30- 8:45am		Informat Meet & Gr (<i>Ballroom</i>			
8:45- 9:45am	Keynote 5: Andrew A. Chien William Eckhardt Distinguished Service Professor in CS, Director of CERES Center for Unstoppable Computing, Senior Fellow of Computation Institute, University of Chicago Senior Computer Scientist in Mathematics & CS, Argonne National Laboratory Zero-Carbon Cloud (ZCCloud): Can Dispatchable Computing Loads shrink the Cloud's rapidly growing Carbon Footprint? (Symphony Ballroom)				
9:45-10am	Break (<i>Ballroom Foyer</i>)				
10am- 12noon	Session 9 Data Processing (Symphony Ballroom B) Chair: De Wang, Google Inc.	Session 10 Mining (Symphony Ballroom C) Chair: Balaji Palanisamy, University of Pittsburgh	Session 11 Online Social Networks (Jimmy Stewart) Chair: Barbara Carminati, University of Insubria	Tutorial: Big Data for Disaster Response Aibek Musaev Calton Pu Georgia Institute of Technology, USA (August Wilson)	
12noon- 1:30pm	Lunch (Symphony A)				
1:30pm – 3:30pm	Session 12 Citizens & Society (Symphony Ballroom C) Chair: James Joshi, University of Pittsburgh		Session 13 Data Security 2 (Jimmy Stewart) Chair: Barbara Carminati, University of Insubria	Tutorial: Big Data for Disaster Response Aibek Musaev Calton Pu Georgia Institute of Technology, USA (August Wilson)	
3:30pm - 3:45pm	Break (<i>Ballroom Foyer</i>)				

Session 1: Collaboration

Chair: Dimitrios Georgakopoulos, RMIT University, Australia

10:00 A.M. - Noon, Symphony Ballroom B

- Discovering Opinion Changes in Online Reviews via Learning Fine-grained Sentiments (Regular paper) Zihang Liu (Jinyuan Senior High School, China), Yu-Ru Lin (University of Pittsburgh, USA), Maoquan Wang and Zhao Lu (East China Normal University, China).
- Business process tasks-assignment and resource allocation in Crowdsourcing context (Regular paper)
 Kahina Bessai and François Charoy (University of Lorraine, LORIA-INRIA-UMR, France)
- Why is it difficult for welfare recipients to return to work? A case study through a collaborative online community (Application paper)
 - Surya Nepal and Cecile Paris (CSIRO Data, Sydney, Australia)
- Social-PPM: Personal Experience Sharing and Recommendation (Application paper)
 Anne H. H. Ngu (*Texas State University, USA*), Shawn Feng (*University of Texas at Austin, USA*), and Helen Paik (*University of New South Wales, Australia*).

Session 2: Access Control

Chair: Anna Squicciarini, Penn State University, USA

10:00 A.M. – Noon, Symphony Ballroom C

- An Attribute-Based Access Control Extension for OpenStack and its Enforcement Utilizing the Policy Machine (Invited paper)
 - Smriti Bhatt, Farhan Patwa, and Ravi Sandhu (University of Texas at San Antonio, USA)
- ➤ A Patient-Centric Attribute Based Access Control Scheme for Secure Sharing of Personal Health Records Using Cloud Computing (Application paper)
 - Harsha S. Gardiyawasam Pussewalage and Vladimir A. Oleshchuk (University of Agder, Norway)
- > Capturing policies for fine-grained access control on mobile devices (Invited paper)
 Prajit Kumar Das, Anupam Joshi and Tim Finin (University of Maryland, USA)
- An Administrative Model for Collaborative Management of ABAC Systems and its Security Analysis (Invited paper)

Sadhana Jha, Shamik Sural (*Indian Institute of Technology, Kharagpur, India*), Vijayalakshmi Atluri and Jaideep Vaidya (*Rutgers University, USA*)

Session 3: Privacy

Chair: Maheswaran Muthukumaru, McGill University, Canada

2:45 - 4:45 P.M., Symphony Ballroom B

- RahasNym: Pseudonymous Identity Management System for Protecting against Linkability (Invited paper)
 Hasini Gunasinghe and Elisa Bertino (*Purdue University*, *USA*)
- ➤ Big Data Privacy Risk Connecting Many Large Data Sets (Invited paper)

 Star Ying (U.S. Department of Commerce, USA) and Tyrone Grandison (Institute for Health Metrics and Evaluation)
- Collaborative Differentially Private Outlier detection for Categorical Data (Regular paper)
 Hafiz Asif, Tanay Talukdar, Jaideep Vaidya, (Rutgers University, USA) Basit Shafiq (LUMS, Pakistan) and Nabil Adam (Rutgers University, USA).
- ➤ Brain Computer Interface (BCI) Applications: Privacy Threats and Countermeasures (Application paper) Hassan Takabi, Anuj Bhalotiya and Manar Alohaly (University of North Texas, USA)

Session 4: Data Security

Chair: Amir Masoumzadeh, SUNY at Albany, USA

2:45 – 4:45 P.M., *Symphony Ballroom C*

- Towards a science for adaptive defense: Revisit server protection (Invited paper)
 Zhisheng Hu, Ping Chen, Yang Lu, Minghui Zhu and Peng Liu (Pennsylvania State University, USA)
- > Smart Moving Target Defense for Linux Container Resiliency (Invited paper)
 Mohamed Azab (The City of Scientific Research and Technological Applications, Egypt), Bassem Mokhtar (Alexandria University, Egypt), Amr Abed (Virginia Tech, USA), Mohamed Eltoweissy (Virginia Military Institute, USA).
- ➤ QL-SimP: Query Language for Secure Interoperable Multi-Granular Provenance Framework (Regular paper) Amani Abu Jabal and Elisa Bertino (*Purdue University*, *USA*)
- Software Security Professionals: Expertise Indicators (Regular paper)

 Mortada Al-Banna, Boualem Benatallah and Moshe C. Baroukh (University of New South Wales, Australia)

Session 5: Cloud & Internet

Chair: Surya Nepal, Data61, CSIRO, Australia

10:00 A.M. – Noon, Symphony Ballroom B

- Modeling Data-Plane Power Consumption of Future Internet Architectures (Invited paper)
 Chen Chen (ETH Zurich, Switzerland and Carnegie Mellon University, USA), David Barrera, and Adrian Perrig, ETH Zurich (ETH Zurich, Switzerland)
- > The Flip-Flop SLA Negotiation Strategy Using Concession Extrapolation and 3D Utility Function (Regular paper)
 - Waheed Aslam Ghumman, Alexander Schill (TU Dresden, Germany) and Jörg Lässig (University of Aplied Sciences Zittau/Görlitz, Germany)
- A programming Language and System for Heterogeneous Cloud of Things (Invited paper)
 Robert Wenger, Xiru Zhu, Jayanth Krishnamurthy, and Muthucumaru Maheswaran (McGill University, Canada)
- Information Fusion Architecture for Variable-Load Scheduling in a Cloud-Assisted CPS (Invited paper)
 Brijesh Kashyap Chejerla and Sanjay Madria (Missouri University of Science & Technology, USA)

Session 6: Web Security & Privacy

Chair: Aibek Musaev, Georgia Institute of Technology, USA

10:00 A.M. – Noon, Symphony Ballroom C

- ➤ On the Imminent Advent of Botnet Powered Cracking (Regular paper)
 Jega Anish Dev (University of Florida, USA)
- > Hardening the OAuth-Webview Implementations in Android Applications by Re-factoring the Chromium Library (Regular paper)
 - Fadi Mohsen (University of Michigan at Flint, USA) and Mohamed Shehab (University of North Carolina at Charlortte, USA)
- A Model of Paradoxical Privacy Behavior in Online Users (Invited paper)
 Christopher Griffin (United States Naval Academy), Sarah Rajtmajer, Anna Squicciarini (Pennsylvania State University)

> Differentially Private Distributed Data Analysis (Application paper)

Hassan Takabi, Samir Koppikar (*University of North Texas, USA*), and Saman Taghavi Zargar (*Cisco Systems Inc., USA*).

Session 7: Distributed Processing

Chair: Mohamed Eltoweissy, Virginia Military Institute, USA

2:45 - 4:45 P.M., Symphony Ballroom B

> Collaborative Workflow Composition as a Service - An Infrastructure Supporting Collaborative Data Analytics Workflow Design and Management (Invited paper)

Jia Zhang, Qihao Bao, Xiaoyi Duan, (Carnegie Mellon University at Silicon Valley, USA), Shiyong Lu (Wayne State University, USA), Lijun Xue, Runyu Shi (Carnegie Mellon University at Silicon Valley, USA), and Pingbo Tang (Arizona State University, USA)

- > Statistical verification of process conformance based on log equality test (Invited paper)
 Hyerim Bae, Sung-hyun Sim, Yulim Choi, (Pusan National University, Korea) and Ling Liu (Georgia Institute of Technology, USA)
- > A Transaction Model with Multilevel Consistency for Shared Data in Distributed Groupware Systems (Invited paper)

Anand Tripathi (University of Minnesota, USA)

Application of bloom filter for duplicate URL detection in a web crawler (Regular paper)
Aveksha Kapoor and Vinay Arora (*Thapar University, India*)

Session 8: Twitter & Sentiments

Chair: Balaji Palanisamy, University of Pittsburg, USA

2:45 - 4:45 P.M., Symphony Ballroom C

- > TweetRipple: Understanding Your Twitter Audience and the Impact of your Tweets (Invited paper)
 Amanda Dennett (Community Engatement Division, Dep. Of Human Services, Australis), Surya Nepal,
 Cecile Paris and Bella Robinson (Data61, CSIRO, Australia)
- Measuring Quality of Collaboratively Edited Documents: the case of Wikipedia (Regular paper)

 Quang-Vinh Dang and Claudia-Lavinia Ignat (Universite de Lorraine & Inria, France)
- ➤ Gathering high quality information on landslides from Twitter by relevance ranking of users and tweets (Regular paper)

Aibek Musaev and Qixuan Hou (Georgia Institute of Technology, USA)

➤ Integrating Multiple Data Sources to Enhance Sentiment Prediction
Brian Heredia, Taghi M. Khoshgoftaar, Joseph D. Prusa and Michael Crawford (Florida Atlantic University, USA)

Session 9: Data Processing

Chair: De Wang, Google Inc.

10:00 A.M. - Noon, Symphony Ballroom B

- > Constructing the Three Graphs for the Large-Scale Heterogeneous Information System (Application paper) Bing Li (Xi'An Technological University, China)
- Compacted Bloom Filter (Regular paper)
 Negar Mosharraf, Anura P. Jayasumana and Indrakshi Ray (Colorado State University, USA)
- > Information Diffusion Analysis of Rumor Dynamics over a Social-interaction based Model (Invited paper)

De Wang, Aibek Musaev, Calton Pu (Georgia Institute of Technology, USA)

Feature-based Adaptation and its Implementation (Application paper)
Anne Marie Amja, Abdel Obaid, Hafedh Mili, (University of Quebec at Montreal, Canada) and Zahi Jarir (Cadi Ayyad University, Morocco)

Session 10: Mining

Chair: Balaji Palanisamy, University of Pittsburgh, USA

10:00 A.M. - Noon, Symphony Ballroom C

- ➤ Detecting Discrimination in a Black-box Classifier (Invited paper)
 Yasmeen Alufaisan, Murat Kantarcioglu, Yan Zhou (University of Texas at Dallas, USA)
- ► Inferred Awareness to Support Mixed-Activity Collaboration (Invited paper)
 Prasun Dewan (University of North Carolina, USA)
- ➤ Differentiating Non-Isomorphic Graphlets for Graph Analytics in Big Data (Invited paper)

 John Calvin Alumbaugh, Qinghua Li, (University of Arkansas, USA), and Vincent C. Hu (National Institute of Standards and Technology, USA)
- > The Roles of Information Seeking Dynamics in Sustaining the Community Participation (Regular paper) Xidao Wen, Di Lu, Yu-Ru Lin (University of Pittsburgh, USA) and Claudia Lopez (Universidad Tecnica Federico Santa Maria, Chile)

Session 11: Online Social Networks

Chair: Barbara Carminati, University of Insubria, Italy

1:30 – 3:30 P.M., Symphony Ballroom B

DLSAS: Distributed Large-Scale Anti-Spam Framework for Decentralized Online Social Networks (Invited paper)

Amira Soliman and Sarunas Girdzijaukas (KTH Royal Institute of Technology, Sweden)

Distributed Large-Scale Data Collection in Online Social Networks (Invited paper)
Hariton Efstathiades, Demetris Antoniades, George Pallis and Marios D. Dikaiakos (University of Cyprus, Cyprus)

Session 12: Citizens & Society

Chair: James Joshi, University of Pittsburgh, USA

1:30 – 3:30 P.M., Symphony Ballroom C

- ➤ Trip Route Planning for Bicycle-Sharing Systems (Invited paper)

 Jiawei Zhang (University of Illinois at Chicago, USA) and Philip S. Yu (University of Illinois at Chicago, USA and Institute for Data Science, Tsinghua University, China)
- > CyanoTRACKER: A Citizen Science Project for Reporting Harmful Algal Blooms (Application paper)
 Michael Scott, Lakshmish Ramaswamy and Victor Lawson (University of Georgia)
- Can a government use social media to support disadvantaged citizens? (Regular paper) Cecile Paris and Surya Nepal (CSIRO Data61, Australia)

Session 13: Data Security 2

Chair: Barbara Carminati, University of Insubria, Italy

1:30 - 3:30 P.M., *Jimmy Stewart*

> Towards Automated Threat Intelligence Fusion (Invited paper)

Ajay Modi, Zhibo Sun, Anupam Panwar, Tejas Khairnar, Ziming Zhao, Adam Doupe, Gail-Joon Ahn and Paul Black (Arizona State University, USA)

> Enabling Attribute Based Encryption as an Internet Service (Invited paper)

Runhua Xu and James Joshi (University of Pittsburgh, USA)

Workshop Session: International Workshops on Internet-scale Clouds and Big Data & International Workshop on Trusted Collaboration

Chairs: Balaji Palanisamy; Lakshmish Ramaswamy, Hongxin Hu

10:00 A.M. - Noon, August Wilson

> Characteristics and Requirements of Big Data Analytics Applications

Jameela Al-Jaroodi (Robert Morris University, USA) and Nader Mohamed (Middleware Technologies Labs, Bahrain)

➤ Knowledge Graph-Based Query Rewriting in a Relational Data Harmonization Framework (Invited Paper)
Neda Abolhassani (University of Georgia, USA), Teresa Tung (Accenture Technology Labs, USA), and
Lakshmish Ramaswamy (University of Georgia, USA)

> Image-based Seed Generation (TrustCol Workshop Invited Paper)

Nader Nassar (IBM, USA), Li-Chiou Chen (Pace University, USA)

> TrustZone Explained: Architectural Features and Use Cases (TrustCol Workshop Invited Paper)
Bernard Ngabonziza, Daniel Martin, Anna Bailey, Haeyun Cho, Sarah Martin, Ziming Zhao, Adam Doupe,
Gail-Joon Ahn (Arizona State University, USA)

> Cloud Security: A Review of Current Issues and Proposed Solutions TrustCol Workshop Invited Paper)

Napoleon C. Paxton (Clemson University)

Workshop Session: International Workshop on Collaborative Internet Computing for Disaster Management

Chairs: Yu-Ru Lin; Vladimir Zadorozhny; Ole-Christoffer Granmo

Workshop opening (10:00--10:15)

Workshop organizers (Yu-Ru Lin, Vladimir Zadorozhny, Ole-Christoffer Granmo.)

Keynote (10:15--11:15)

> The Dynamics of Risk

Louise Comfort, (Professor of Public and International Affairs, Director, Center for Disaster Management, University of Pittsburgh, USA)

Invited talk (11:15--11:45)

> Using Biased Social Samples for Disaster Response

Fred Morstatter, (Arizona State University, USA)

Accepted paper presentation (11:45--12:05)

Monitoring Collective Attention During Disasters

Xingsheng He (University of Science and Technology of China, China & University of Pittsburgh, USA) and Yu-Ru Lin (University of Pittsburgh, USA)

Invited talk (13:30--15:15, Short Break from 14:30-14:45)

"Our hearts go out": social support and gratitude after disaster

Kimberly Glasgow, Clay Fink, (The Johns Hopkins University Applied Physics Laboratory, USA), and Jessika Vitak and yal Tausczik (University of Maryland at College Park, USA)

> Data driven approaches to define acute care referral regions and resources

David J. Wallace, MD MPH, (Critical Care & Emergency Medicine, Clinical Research, Investigation, and Systems Modeling of Acute Illness (CRISMA) Center, University of Pittsburgh School of Medicine, USA)

➤ Little Data, Big Stories: Taking the Pulse of Large-Scaled Events on Twitter

Patrick M. Dudas, Samantha Weirman, (Pennsylvania State University, USA) and Christopher Griffin (United States Naval Academy)

Accepted paper presentation (15:15--16:30)

Social Safety Guard based on Internet of Things

Jae-gun Moon, Jinseong Kim, Im Y. Jung, (Kyungpook National University, Korea), and Su-an Eom (Datavision Co., Ltd, Korea)

> Using the Social Network Internet of Things to Mitigate Public Mass Shootings

Irena Gao, (Illinois Mathematics and Science Academy, USA)

> Crowdsourcing-based Disaster Management using Fog Computing in Internet of Things Paradigm

Ashish Rauniyar, Paal Engelstad, Boning Feng, Do Van Thanh (Oslo and Akershus University College of Applied Sciences (HiOA) and University of Oslo (UiO), Norway)

> Tracking Public Response and Relief Following the 2015 Nepal Earthquake

Yue Su, Ziyi Lan, Yu-Ru Lin, James Joshi, and Louise K. Comfort (University of Pittsburgh, USA)

Panel Discussion (16:30—17:00)

Probing Construct Validity in Data-driven Disaster Analysis

Wen-Ting Chung and Yu-Ru Lin, (University of Pittsburgh, USA)

Closing(17:00--17:10)

Yu-Ru Lin & all participants

Workshop PiCSoC Session

Chairs: Elena Ferrari; Barbara Carminati; Amir Masoumzadeh

10:00am-12:00pm

Location: Jimmy Stewart - Session Chair: TBA

10:00 - Opening Remarks

Workshop Co-Chairs (Elena Ferrari, Barbara Carminati, Amir Masoumzadeh)

10:15 - Privacy by Socio-Technical Design - A Collaborative Approach for Privacy Friendly System Design

Martin Degeling (Carnegie Mellon University, USA), Christopher Lentzsch, Alexander Nolte, Thomas Herrmann, Kai-Uwe Loser (Ruhr-University, USA)

10:30 - **Using Transfer Learning to Identify Privacy Leaks in Tweets**Saul Ricardo Medrano Castillo, Zhiyuan Chen (University of Maryland at Baltimore County, USA)

11:00 - **Privacy Settings Recommender for Online Social Network**Davide Alberto Albertini, Barbara Carminati, Elena Ferrari (*University of Insubria, Italy*)

11:30 - Towards Measuring Knowledge Exposure in Online Social Networks
Amirreza Masoumzadeh, Andrew Cortese (University at Albany-SUNY, USA)

02:45pm-04:45pm

Location: Jimmy Stewart - Session Chair: TBA

2:45 - Access Control Models for Cloud-Enabled Internet of Things: A Proposed Framework and Research Agenda

Asma Alshehri, Ravi Sandhu (University of Texas at San Antonio, USA)

- 3:15 If You Can't Measure It, You Can't Manage It: Towards Quantification of Privacy Policies
 Manar Alohaly, Hassan Takabi (University of North Texas, USA)
- 3:45 The Listening Patterns to System Events by Benign and Malicious Android Apps
 Fadi Mohsen (University of Michigan at Flint, USA) and Mohamed Shehab (University of North Carolina Chalrotte, USA)
- 4:15 A Dynamic Privacy Aware Access Control Model for Location Based Services
 Leila Karimi, Balaji Palanisamy, James Joshi (University of Pittsburgh, USA)
- 4:30 Closing Remarks

Workshop Co-Chairs (Elena Ferrari, Barbara Carminati, Amir Masoumzadeh)