

SAM'16: Monday, July 25, 2016 Schedule

07:00a - 05:00p: REGISTRATION (Second Floor, Conference Lobby: 1-5)

08:45 - 09:00am: CONGRESS OPENING REMARKS - July 25, Monday:
Prof. Hamid R. Arabnia (Chair, Steering Committee & Coordinator)
Department of Computer Science, University of Georgia, USA;
Editor-in-Chief, The Journal of Supercomputing (Springer);
Fellow, Center of Excellence in Terrorism, Resilience,
Intelligence & Organized Crime Research (CENTRIC).
(LOCATION: East Ballrooms 7, 8, & 9)

09:05 - 10:00am: KEYNOTE LECTURE 1 - July 25, Monday:
SEARCH FOR EXTRATERRESTRIAL LIFE IN OUR SOLAR SYSTEM
Dr. Firouz Naderi
Former director of Solar System Exploration at NASA's JPL -
Oversaw robotic spacecraft dispatched to all corners of the
solar system; Prior position: NASA's Program Manager for
Mars Exploration; Recipient of NASA's outstanding Leadership
Medal and NASA's Distinguished Service Medal (NASA's highest
award); In appreciation of his contributions, The
International Astronomical Union (IAU) and NASA/JPL has named
an asteroid "Naderi" after his name.
(LOCATION: East Ballrooms 7, 8, & 9)

10:05 - 11:00am: KEYNOTE LECTURE 2 - July 25, Monday:
DATA SCIENCE FOR HIGH DIMENSIONAL DATASETS
Prof. Alfred Inselberg
Tel Aviv University, Israel; University of California,
Los Angeles (UCLA); University of Southern California (USC);
Senior Fellow at the San Diego Supercomputing Center,
California, USA. Author of "Parallel Coordinates: VISUAL
Multidimensional Geometry"; his work is praised by
Stephen Hawking among many others.
(LOCATION: East Ballrooms 7, 8, & 9)

11:05 - 11:40am: KEYNOTE LECTURE 3 - July 25, Monday:
INDUSTRIAL BIG DATA AND SMART ASSETS: THE FOURTH INDUSTRIAL
REVOLUTION BY THE MEANS OF DEATH AWARENESS CAPABILITIES
Prof. Diego Galar
Division of Operation and Maintenance Engineering,
Lulea University of Technology, Sweden; Coordinating several
H2020 projects in cyber physical systems, Industry 4.0, IoT
and industrial Big Data.
(LOCATION: East Ballrooms 7, 8, & 9)

11:40a - 01:00p: LUNCH (On Your Own)

SESSION 1-SAM: NETWORK SECURITY I
Chair: Prof. Kathy Liszka, Akron University, USA
July 25, 2016 (Monday); 01:00pm - 03:00pm

(LOCATION: Ballroom 2)

01:00 - 01:20pm: A Secure Routing Scheme for Networks with Unknown or Dynamic Topology using A-star Algorithm
Joseph Flinn, Hen Su Choi Ortiz, Shengli Yuan
Whitworth University, Spokane, Washington, USA;
University of California San Diego, California, USA;
University of Houston-Downtown, Houston, Texas, USA

01:20 - 01:40pm: Baseline Operational Security Metrics for Industrial Control Systems
Guillermo A. Francia, III
Center for Information Security and Assurance,
Jacksonville State University, USA

01:40 - 02:00pm: Anomaly Detection in Smart Grid Using Wavelet Transform and Artificial Neural Network
Maryam Ghanbari, Ken Ferens, Witold Kinsner
Department of Electrical and Computer Engineering,
University of Manitoba, Winnipeg, Manitoba, Canada

02:00 - 02:20pm: Wormhole Attack Detection in Wireless Sensor Network using Variance Fractal Dimension
Mohammad Nurul Afsar Shaon, Ken Ferens
Department of Electrical and Computer Engineering,
University of Manitoba, Winnipeg, Manitoba, Canada

02:20 - 02:40pm: Network Intrusion Detection Using Machine Learning
Md Nasimuzzaman Chowdhury, Ken Ferens
Department of Electrical and Computer Engineering,
University of Manitoba, Winnipeg, Manitoba, Canada

02:40 - 03:00pm: Spectral Fractal Dimension Trajectory to Measure Cognitive Complexity Of Malicious DNS Traffic
Muhammad Salman Khan, Sana Siddiqui, Ken Ferens, and
Witold Kinsner
Department of Electrical and Computer Engineering,
University of Manitoba, Winnipeg, MB, Canada

03:00 - 03:20pm: MINI-POSTER SESSION A-SAM
(INCLUDES POSTER + SHORT & POSITION PAPERS)
July 25, 2016 (Monday)
(LOCATION: Hallways of Ballrooms 1-5)

SESSION 2-SAM: CRYPTOGRAPHIC TECHNOLOGIES I + ASSESSMENT
Chair: Dr. Jue-Sam Chou, Nanhua University, Taiwan
July 25, 2016 (Monday); 03:20pm - 06:00pm
(LOCATION: Ballroom 2)

03:20 - 03:40pm: A New Group-based Secret Function Sharing with Variate Threshold
Anneke Soraya Hidayat, Dae-Soo Kim, Kee-Young Yoo
School of Computer Science and Engineering,
Kyungpook National University, Daegu, South Korea

- 03:40 - 04:00pm: Multilevel Threshold Secret Image Sharing Based on the Chinese Remainder Theorem
Rosemary Koikara, Anneke Soraya Hidayat, Young-Ju Kim, Anand Paul, Kee-Young Yoo
School of Computer Science and Engineering,
Kyungpook National University, Daegu, South Korea
- 04:00 - 04:20pm: Secure Computing Through Homomorphic Encryption on a Peer-Servicing Public Cloud Computing Platform
Yin-Jun Chen, Sheng-Tzong Cheng
Department of Computer Science & Information Engineering,
National Cheng Kung University, Tainan, Taiwan
- 04:20 - 04:40pm: Applications and Evaluation of Ambiguous Multi-Symmetric Cryptography in Vehicular Ad-hoc Networks
Ahmad Mansour, Richard Bassous, Kevin Miller, Huirong Fu, Yakeen Alwishah, Ye Zhu
Department of Computer Science and Engineering, Oakland University Rochester, USA; Department of Computer Science & Engineering, Michigan State University, Lansing, Michigan, USA; Department of Computer Science, Wayne State University, Detroit, Michigan, USA; Department of ECE, Cleveland State University, Cleveland, Ohio, USA
- 04:40 - 05:00pm: Cryptanalyses on Secure and Efficient Privacy-preserving Public Auditing Scheme for Cloud Storage
Yalin Chen, Jue-Sam Chou, Zhe-Yu Lin
Institute of Information Systems and Applications, National Tsing Hua University, Taiwan; Department of Information Management, Nanhua University, Taiwan
- 05:00 - 05:20pm: High Efficiency of Scalar Multiplication in Elliptic Curve Cryptography
Chiaki Itaba, Noboru Takeuchi, Mayuko Hirose, Kaori Katsumata, Matrazali Noorafiza, Itaru Koike, Toshiyuki Kinoshita
Graduate School of CS, Tokyo University of Technology, Japan
- 05:20 - 05:40pm: Design and Implementation of on Board Satellite Encryption with SEU Error Detection and Correction Code on FPGA
Samah Mohamed, Khaled Shehata, Hanady Issa
Arab Academy for Science and Technology (AAST), Egypt
- 05:40 - 06:00pm: Examination of Possibility on Reuse of Certification Result between Different Assessment Scheme for Certification Authority
Soshi Hamaguchi, Toshiyuki Kinoshita, Satoru Tezuka
School of Computer Science, Tokyo University of Technology, Tokyo, Japan; Graduate School of Media and Governance, Keio University, Kanagawa, Japan
- 06:00 - 08:30pm: TUTORIALS + DISCUSSIONS
(Please refer to the lists at the beginning of the program book for details)

08:30 - 11:30pm: CONFERENCE RECEPTION DINNER / SOCIAL
July 25 - Monday; 08:30pm - 11:30pm
(LOCATION: Ballrooms 2-5)

SAM'16: Tuesday, July 26, 2016 Schedule

7:00am - 5:00pm: REGISTRATION (Second Floor, Conference Lobby: 1-5)

SESSION 3-SAM: SECURITY MANAGEMENT + COMPUTER SECURITY + SECURITY APPLICATIONS

Chairs: Dr. Martin Zsifkovits,
Universität der Bundeswehr München, Germany;
Dr. Kazi Zunnurhain,
Northern Kentucky University, USA
July 26, 2016 (Tuesday); 08:00pm - 10:20pm
(LOCATION: Ballroom 2)

08:00 - 08:20am: Strategic Risk Management in Counter-Terrorism for the
Railbound Public Transport: Merging Qualitative and
Quantitative Operations Research Techniques
Martin Zsifkovits, Stefan Pickl
Universität der Bundeswehr München, Institute for Informatics,
Mathematics, and Operations Research, Neubiberg, Germany

08:20 - 08:40am: Using Football Formations in a Honeypot Environment
Sebastian Kollmannsperger, Tyrone S. Toland
Department of Informatics, University of South Carolina
Upstate, Spartanburg, South Carolina, USA

08:40 - 09:00am: Vulnerabilities with Internet of Things
Kazi Zunnurhain
Northern Kentucky University, Highland Heights, Kentucky, USA

09:00 - 09:20am: eGovernment Security Requirements: Managing Obligations and
Authorizations Inconsistencies with XACMLv3
Ibrahim Yonis Omar, Romain Laborde, Francois Barrere,
Ahmad Samer Wazan, Abdelmalek Benzekri
Institut de Recherche en Informatique de Toulouse, University
Paul Sabatier, Toulouse, France

09:20 - 09:40am: Mitigation Model to Improve Android Security
Hani Alshahrani, Ali Alshehri, Raed Alharthi, Huirong Fu,
and Ye Zhu
Department of Computer Science and Engineering, Oakland
University, Rochester, Michigan, USA; Department of ECE,
Cleveland State University, Ohio, USA

09:40 - 10:00am: Detecting and Preventing Information Security Breaches
Haydar Teymourlouei, Lethia Jackson
Department of Computer Science, Bowie State University,
Bowie, Maryland, USA

10:00 - 10:20am: Modeling Host OSI Layers Cyber-Attacks Using System Dynamics
Uma Kannan, Rajendran Swamidurai, David Umphress
Computer Science and Software Engineering, Auburn University,
Auburn, Alabama, USA; Mathematics and Computer Science,
Alabama State University, Montgomery, Alabama, USA

10:20 - 10:40pm: BREAK

SESSION 4-SAM: PANEL: FUTURE OF CYBERSECURITY EDUCATION

Moderator: Prof. Kevin Daimi, University of Detroit Mercy, USA

Panelists:

Prof. Eman El-Sheikh, University of West Florida, USA

Prof. Levent Ertaul, California State University East Bay, USA

Prof. Guillermo Francia, Jacksonville State University, USA

July 26, 2016 (Tuesday); 10:40am - 11:40pm

(LOCATION: Ballroom 2)

11:40 - 12:00pm: FREE SLOT

12:00 - 12:20pm: FREE SLOT

12:20 - 01:20pm: LUNCH (On Your Own)

SESSION 5-SAM: NETWORK SECURITY II

Chair: Prof. Guillermo Francia,

Jacksonville State University, USA

July 26, 2016 (Tuesday); 01:20pm - 03:00pm

(LOCATION: Ballroom 2)

01:20 - 01:40pm: A Routing Algorithm with Path Randomization for Enhanced
Security and Balanced Energy Consumption

David C. Yuan, Lei Chen

Texas Academy of Mathematics and Science University of

Northern Texas, Texas, USA; Department of Information

Technology, Georgia Southern University, Georgia, USA

01:40 - 02:00pm: Federated Identity and Access Management and Trusted Computing

Based Federated Grid Model for Federated Grid Resources Access

Zubair Ahmad Khattak, Jamalul-lail Ab Manan, Suziah Sulaiman

Department of Computer Science, Iqra National University,

Peshawar, Pakistan; MIMOS Berhad, Technology Park Malaysia,

Kuala Lumpur, Malaysia; Department of Computer Sciences,

Universiti Teknologi PETRONAS, Tronoh, Perak, Malaysia

02:40 - 02:20pm: Network Security Threats and Vulnerabilities

Manal Alshahrani, Haydar Teymourlouei

Department of Computer Science,

Bowie State University, Bowie, Maryland, USA

02:20 - 02:40pm: SOC as a Service: A User Centric Approach for Network
Security Monitoring

Nicolas Greneche, Mohamed Kone, Christian Toinard

Sorbonne Paris, University of Paris 13, DSI, LIPN, CNRS,

UMR, Villetaneuse, France;
INSA CVL, Bourges, France

02:40 - 03:00pm: Cyber Passport: Identity Theft Strategic Countermeasure
Gideon Samid
Reserve University, USA

03:00 - 03:40pm: POSTER SESSION B-SAM
(INCLUDES POSTER + SHORT & POSITION PAPERS)
July 26, 2016 (Tuesday)
(LOCATION: Hallways of Ballrooms 1-5)

- O. s-Tor-y on User Acceptance of PETs
Marta Piekarska, Miguel Rios Quintero
Security in Telecommunications, Technische Universitat
Berlin, Germany; 2IP-Based Assesment, Technische Universitat
Berlin, Germany
- O. A Vision for Intrusion Analysis and Digital Forensics in Cloud
Kazi Zunnurhain
Northern Kentucky University, Highland Heights, Kentucky, USA
- O. ...

SESSION 6-SAM: SPECIAL TRACK: END-TO-END SECURITY AND CYBERSECURITY:
FROM THE HARDWARE TO APPLICATION
Chair: Prof. Tiziana Margaria,
University of Limerick and Lero, Ireland
July 26, 2016 (Tuesday); 03:40am - 05:40pm
(LOCATION: Ballroom 2)

03:40 - 04:00pm: SEcube: An Open Security Platform: General Approach and
Strategies
Antonio Varriale, Giorgio Di Natale, Paolo Prinetto,
Bernhard Steffen, Tiziana Margaria
Blu5 Labs Ltd., Ta' Xbiex, Malta; LIRMM, CNRS, Montpellier,
France; CINI Cyber Security National Lab, Rome, Italy;
Technical University of Dortmund, Germany; University of
Limerick and Lero, Limerick, Ireland

04:00 - 04:20pm: SEcube: Data at Rest and Data in Motion Protection
Antonio Varriale, Paolo Prinetto, Alberto Carelli, and
Pascal Trotta
Blu5 Labs Ltd., Ta' Xbiex, Malta; CINI Cyber Security National
Lab, Rome, Italy; Lero - The Irish Software Research Centre,
Limerick, Ireland

04:20 - 04:40pm: Model Driven Design of Secure High Assurance Systems: An
Introduction to the Open Platform from the User Perspective
Steve Bosselmann, Johannes Neubauer, Stefan Naujokat, and
Bernhard Steffen
Technical University of Dortmund, Dortmund, Germany

04:40 - 05:00pm: Towards Model Driven Design of Crypto Primitives and Processes
Alberto Carelli, Giorgio Di Natale, Pascal Trotta, and
Tiziana Margaria

LIRMM, CNRS, Montpellier, France; CINI Cyber Security National Lab, Rome, Italy; Lero - The Irish Software Research Centre, Limerick, Ireland; University of Limerick and Lero, Ireland

05:00 - 05:20pm: Model Driven Design of Secure Properties for Vision-based Applications: A Case Study
Giuseppe Airo Farulla, Marco Indaco, Axel Legay, Tiziana Margaria
Looqui Srl, SME and Politecnico di Torino, Turin, Italy;
INRIA, Rennes, France; University of Limerick and Lero, Ireland

05:20 - 05:40pm: End2End CyberSecurity Based on a Strong Public-Private Partnership
Italian National Cyber Security Framework
Roberto Baldoni, Luca Montanari
CINI Cyber Security National Lab, Rome, Italy

05:40 - 08:30pm: TUTORIALS + DISCUSSIONS
(Please refer to the lists at the beginning of the program book for details)

SAM'16: Wednesday, July 27, 2016 Schedule

7:00am - 5:00pm: REGISTRATION (Second Floor, Conference Lobby: 1-5)

SESSION 7-SAM: SECURITY EDUCATION + INFORMATION ASSURANCE + HARDWARE SECURITY
Co-Chairs: Prof. Levent Ertaul,
California State University East Bay, USA;
Prof. Ken Ferens,
University of Manitoba, Canada
July 27, 2016 (Wednesday); 08:00am - 10:20am
(LOCATION: Ballroom 2)

08:00 - 08:20am: FREE SLOT

08:20 - 08:40am: An Automated Tool for Evaluating Hardware Trojans and Detection Methods
Nicholas Houghton, Samer Moein, Fayez Gebali, Aaron T. Gulliver
Department of Electrical and Computer Engineering,
University of Victoria, B.C., Canada

08:40 - 09:00am: Generic Semantics Specification and Processing for Inter-System Information Flow Tracking
Pascal Birnstill, Christoph Bier, Paul Wagnery, Juergen Beyerer
Fraunhofer Institute of Optronics, System Technologies and Image Exploitation IOSB, Karlsruhe, Germany;
Karlsruhe Institute of Technology, Karlsruhe, Germany

09:00 - 09:20am: Selecting Classification Features for Detection of Mass Emergency Events on Social Media
Viktor Pekar, Jane Binner, Hossein Najafi, Chris Hale

Business School, University of Birmingham, Birmingham, UK;
Computer Science and Information Systems, University of Wisconsin,
River Falls, Wisconsin, USA; Electronic Systems Lab,
Georgia Institute of Technology, USA

09:20 - 09:40am: PUF Based Lightweight Hardware Trust Anchor for Secure Embedded Systems

Kai Fischer, Erwin Hess, Andreas Mucha, Fabian Riess
Siemens AG. Corporate Technology, Munich, Germany

09:40 - 10:00am: Towards a Mathematical Model for Autonomously Organizing Security Metric Ontologies

Gregory Vert, Bryce Barrette, Bilal Gonen
College of Security and Intelligence, Embry Riddle Aeronautical
University, Florida, USA;
Computer Science, University of West Florida, Florida, USA

10:00 - 10:20am: Secret Sharing Scheme Based on Edge Dominating Set
Nadia M. G. Al-Saidi, Mohammed M. Abdulhadi, Mustafa Saed
Applied Mathematics, University of Technology, Baghdad, Iraq

10:20 - 10:40pm: BREAK

SESSION 8-SAM: BIOMETRICS AND FORENSICS

Co-Chairs: Dr. Haydar Teymourlouei,
Bowie State University, USA;
Dr. Khaled Ali Shehata,
Arab Academy for Science & Technology, Egypt
July 27, 2016 (Wednesday); 10:40am - 12:20pm
(LOCATION: Ballroom 2)

10:40 - 11:00am: Subject Movement at Different Force Levels in a Fingerprint Recognition System

Kevin Chan, Jeffrey Chudik, Katrina Molina, Alex Hirsch,
Brennon Morning, Evan Pulliam, Drew Radcliff, Stephen Elliott
Department of Technology Leadership and Innovation,
Purdue University, West Lafayette, Indiana, USA

11:00 - 11:20am: Digital Forensic Analysis of SIM Cards

Mohamed T. Abdel Azim, Ahmed F. Shosha
Nile University, Cairo, Egypt

11:20 - 11:40am: A Multimodal Biometric System with Several Degrees of Feature Fusion for Target Identities Recognition

Sorin Soviany, Cristina Soviany, Sorin Puscoci
I.N.S.C.C., Romania; Feature Analytics, Belgium

11:40 - 12:00pm: Digital Forensic Analysis of Web-Browser Based Attacks

Sally M. Mohamed, Nashwa Abdelbaki, Ahmed F. Shosha
School of Communication and Information Technology,
Nile University Cairo, Egypt

12:00 - 12:20pm: EasyAuth - Implementation of a Multi-Factor Authentication Scheme Based on Sound, Fingerprint and One Time Passwords (OTP)

Levent Ertaul, Ishita Thanki

California State University East Bay, Hayward, California, USA

12:20 - 01:20pm: LUNCH (On Your Own)

SESSION 9-SAM: CRYPTOGRAPHICS TECHNOLOGIES II

Chair: Dr. Greg Vert,
Embry Riddle Aeronautical University, USA
July 27, 2016 (Wednesday); 01:20am - 03:00pm
(LOCATION: Ballroom 2)

01:20 - 01:40pm: FREE SLOT

01:40 - 02:00pm: KERMAN: A Key Establishment Algorithm Based on Harvesting
Randomness in MANETs
Mohammad Reza Khalili Shoja, George Traian Amariuca,
Shuangqing Weiy, Jing Dengz
Department of ECE, Iowa State University, Iowa, USA;
School of EECS, Louisiana State University, Louisiana, USA;
Department of CS, University North Carolina at Greensboro,
North Carolina, USA

02:00 - 02:20pm: Performance Comparison of AES-CCM and AES-GCM Authenticated
Encryption Modes
Levent Ertaul, Anup Mudan, Nausheen Sarfaraz
California State University East Bay, Hayward, California, USA

02:20 - 02:40pm: A DNA-Based Cryptographic Key Generation Algorithm
Shakir M. Hussain, Hussein Al-Bahadili
Faculty of IT, University of Petra, Amman, Jordan

02:40 - 03:00pm: FREE SLOT

03:00 - 03:40pm: POSTER SESSION C-SAM
(INCLUDES POSTER + SHORT & POSITION PAPERS)
July 27, 2016 (Wednesday)
(LOCATION: Hallways of Ballrooms 1-5)

- O. A Denied-Events Based Detection Method Against SSH Brute-Force
Attack in Supercomputing Service Environment
Jae-Kook Lee, Sung-Jun Kim, Taeyoung Hong
Department of Supercomputing Infrastructure, KISTI,
Daejeon, Korea
- O. How to Realize a Soft Tracking of People in Temporary Reception
Centres
G. L. Masala, M. L. Ganadu
Department of Political Science, Communication, Engineering and
Information Technologies and Department of Humanities and Social
Sciences, University of Sassari, Sassari, Italy
- O. ...

SESSION 10-SAM: COMPUTER SECURITY + SECURITY APPLICATIONS

Chair: Dr. Kazi Zunnurhain,
Northern Kentucky University, USA

July 27, 2016 (Wednesday): 03:40am - 05:40pm
(LOCATION: Ballroom 2)

03:40 - 04:00pm: Using DroidDream Android Malware Behavior for Identification of Other Android Malware Families

YeKung Kim, Kathy J. Liszka, Chien-Chung Chan
Department of CS, The University of Akron, Akron, Ohio, USA

04:00 - 04:20pm: Anomaly Detection and Machine Learning Methods for Network Intrusion Detection: an Industrially Focused Literature Review

Colin Gilmore, Jason Haydaman
TRTech., Winnipeg, Canada

04:20 - 04:40pm: Cloud Application Model Personal Healthcare Record Implementation

Amer Jneid, Ashraf Gaffar
Arizona State University, Tempe, Arizona, USA;
Arizona State University, Meza, Arizona, USA

04:40 - 05:00pm: Using OWASP Vulnerabilities to Evaluate Open Source Web Scanners

Kathryn Johnston, Mario A. Garcia
Computer Science, California State University San Bernardino,
San Bernardino, California, USA; Department of Computer Science,
Texas A&M Corpus Christi, Corpus Christi, Texas, USA

05:00 - 05:20pm: Live Migration of Virtual Machine in Cloud: Survey of Issues and Solutions

Hani Alshahrani, Ali Alshehri, Raed Alharthi, and
Abdulrahman Alzahrani
Department of Computer Science and Engineering,
Oakland University, Rochester, Michigan, USA

05:20 - 05:40pm: FREE SLOT

05:40 - 08:30pm: TUTORIALS + DISCUSSIONS

(Please refer to the lists at the beginning of the program
book for details)

SAM'16: Thursday, July 28, 2016 Schedule

7:00am - 3:00pm: REGISTRATION (Second Floor, Conference Lobby: 1-5)

08:00a - 03:00p: During this period, SAM'16 attendees are encouraged to participate in sessions belonging to BIOENG (Biomedical Engineering), CSC (Scientific Computing), EEE (e-Learning, e-Business, e-Government), ESCS (Cyber-physical Systems), FECS (Education), HIMS (Health Informatics), ICAI (Artificial Intelligence), PDPTA (HPC), and SERP (Software Engineering) conferences. These sessions discuss topics that may be of interest to the SAM'16 attendees.

03:00 - 03:20pm: BREAK

03:20 - 03:40pm: CLOSING & FAREWELL
(LOCATION: Ballroom 1)