WELCOME!

Message from the General Chair:

It is my distinguished pleasure to welcome all the participants to Budapest and the 43nd Annual IEEE/IFIP International Conference on Dependable Systems and Networks. The Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN) is the most prestigious international forum for presenting research results in the field of dependability and security. It is especially important for us that this conference is organized in our region for the first time in its history.
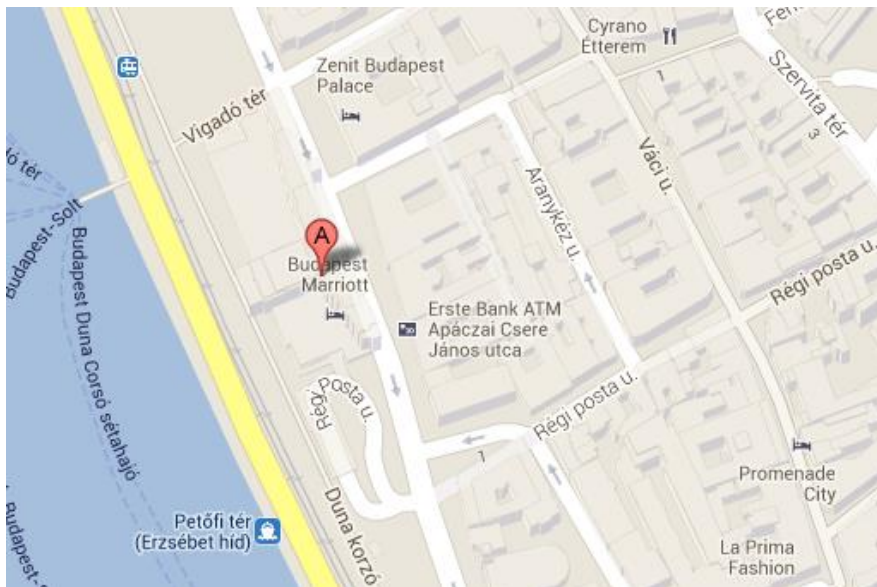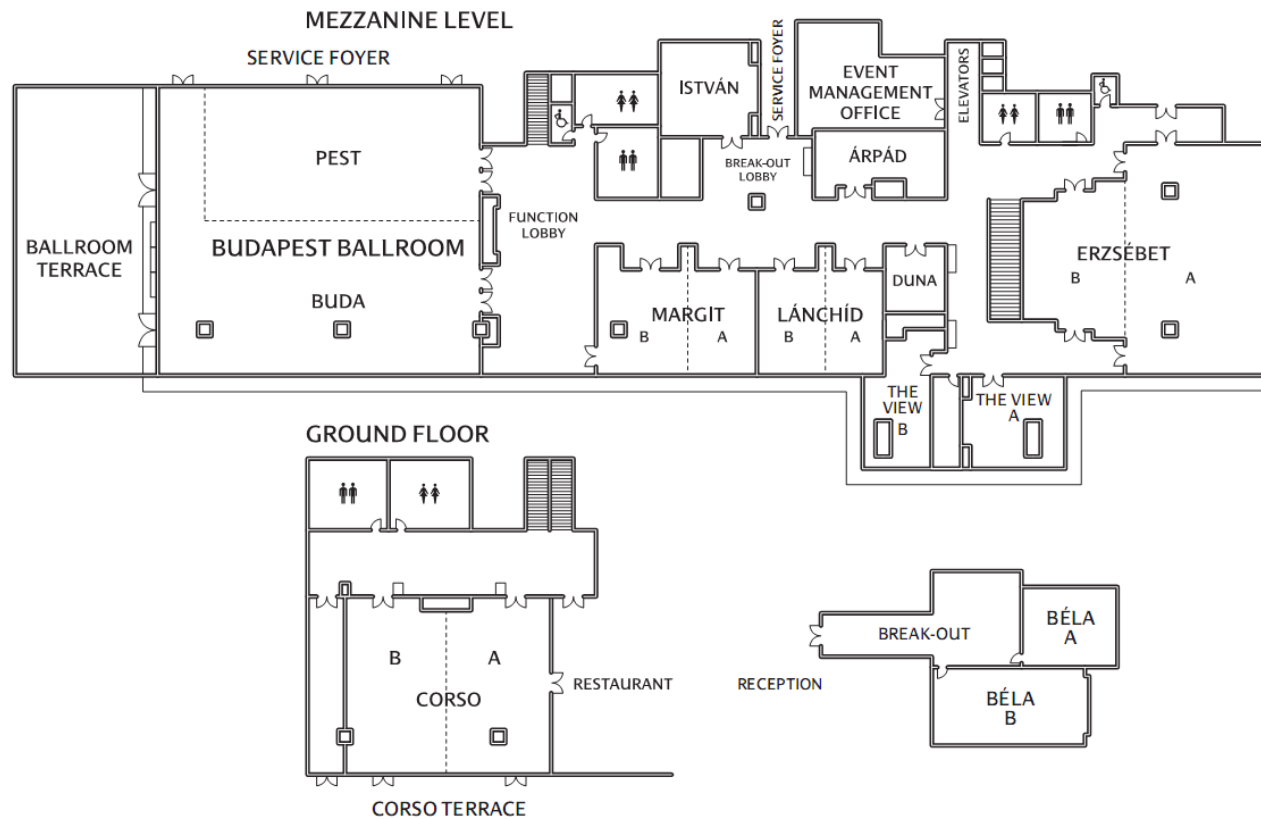
DSN is now in its fifth decade of evolution and has a sustained tradition to address both conceptual and applied research results related to actual questions posed by the rapid IT evolution. This flagship dependability conference addresses the entire spectrum of scientific and technological challenges raised by modern information technologies.

Our program consists of three interesting plenary talks, which address how to reflect the complexity of problems addressed by the dependability community. One of them focuses on novel technology driven challenges, a second one presents a vision on the new approaches to large scale infrastructures, while the third one presents state-of-the-art results from the field of mathematics. The rich program starts with 4 workshops presenting of 45 papers to cover interesting aspects of dependability complemented with 3 tutorials. The state-of-the-art in research is well-represented by 46 regular papers, 12 fast abstracts, 6 student forum papers.

Such a conference relies on the experience and contribution of many members of our community. My special thanks to all of the organizers of the conference for their involvement and continuous help, especially, the past and recent DSN Steering Committee Chairs and Co-Chairs Neeraj Suri, Roberto Baldoni, Rick Schlichting and Paulo Veríssimo; Program Committee Chairs George Candea and Peter Kemper; Finance Chair István Alföldi; Registration Chair Dóra Kiszelné Jancsó; Local Arrangements Chair Gábor Huszerl assisted by Nikol Biró; Publications Chair Gábor Horváth; Fast Abstracts Co-Chairs Bojan Cukic and Roy Friedman; BoF Chair Christian Constantinescu; Workshop Co-Chairs Abdelmajid Khelil and Cristina Nita-Rotaru; Tutorial Co-Chairs Alan Wood and Robert S. Swarz; Student Co-Chairs Elias Duarte, Martin Hiller and Dong Seong Kim; Publicity Co-Chairs Ann Tai, Tadashi Dohi and István Majzik. Special thanks to the senior members of our community like Robert Swarz and Chuck Weinstock and to all the other volunteers who helped our work.

András Pataricza, Budapest University of Technology and Economics
June 2013

MEZZANINE LEVEL

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EVENT MANAGEMENT OFFICE

ELEVATORS

PEST

BREAK-OUT LOBBY

ÁRPÁD

BALLROOM TERRACE

BUDAPEST BALLROOM

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Information about the DSN Conference **locations**:

The **Conference Sessions** will be held in the conference rooms of the Budapest Marriott Hotel (Apáczai Csere János u. 4., Budapest).

We invite you to the Club Restaurant of the Hungarian Academy of Sciences (Széchenyi István tér 9., Budapest, or on older maps you can still find it as Roosevelt tér 9., Budapest) for the **DSN 2013 Welcome Reception** on Monday the 24th June 18:30-20:00. It is a 10 minutes walk from the conference hotel along the Danube river northward.

The **Conference Excursion and Banquet** will be held on Wednesday the 26th June, just after the afternoon session. We will have a bus shuttle to Gödöllő (visiting the Royal Castle of Gödöllő) and to Domonyvölgy (horse show and dinner). The buses have to leave on time to reach the Castle on time. These places are 30-40 km from Budapest, please join the bus shuttle. We will return to the conference hotel about 10 PM.

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Xinyuan Wang (George Mason Univ, USA)

Dependability of Clouds, Data Centers and Virtual Machine Technology (DCDV)

- Jogesh K. Muppala, HK Univ. of Sci. and Tech., Hong Kong
- Matti Hiltunen, AT&T Labs-Research, USARoy Campbell, UIUC, USA
- Paulo Veríssimo, Universidade de Lisboa, Portugal
- Sören Bleikertz, IBM Zurich, Switzerland
- Rakesh Bobba, UIUC, USA
- Antonio Casimiro, U. Lisboa, Portugal
- Haibo Chen, SJTU, China
- Gernot Heiser, NICTA, Australia
- Kaustubh Joshi, AT&T Labs-Research, USA
- Zbigniew Kalbarczyk, UIUC, USA
- Dong Seong Kim, U. Canterbury, NZ
- Paulo Maciel, UFPE, Brazil
- Manish Marwah, HP Labs, USA
- Hans Reiser,U. Passau, Germany
- Sriram Sankar, Microsoft, USA
- Santonu Sarkar, Infosys, India
- Karsten Schwan, Georgia Tech., USA
- Vibhu Sharma, Accenture, India
- Abhinav Srivastava, AT&T Labs-Research, USA
- Kishor Trivedi, Duke University, USA
- Aad van Moorsel, U. Newcastle, UK
- Shalini Yajnik, Avaya Labs, USA

Workshop on Reliability and Securty Data Analysis (RSDA)

- Catello Di Martino, University of Illinois at Urbana-Champaign, USA
- Antonio Pecchia, Federico II University of Naples, ITALY
- Jon Stearley, Sandia National Laboratories, USA
- Domenico Cotroneo, Federico II University of Naples
- Zbigniew Kalbarczyk, University of Illinois at Urbana-Champaign
- Kishor Trivedi, Duke University
- Bojan Cukic, West Virginia University
- Franck Cappello, INRIA and University of Illinois at Urbana-Champaign
- Michel Cukier, University of Maryland
- Marco Vieira, University of Coimbra
- Salvatore Orlando, VMware
- Santonu Sarkar, Infosys Labs
- Olivier Thonnard, Symantec Research Labs
- Greg Bronevetsky, Lawrence Livermore National Lab
- Marcello Cinque, Critiware and Federico II University of Naples
- Karthik Pattabiraman, University of British Columbia
- Aashish Sharma, Lawrence Berkeley National Laboratory
- Adam Slagell, National Center for Supercomputing Applications
- Keun Soo Yim, Google
- Silvio Pardi, Italian National Institute of Nuclear Physics (INFN)
- Suo Chen, Microsoft Research
- Vassil Alexandrov, Barcelona Supercomputing Center
- Luisa Carracciuolo, SCoPE Data Center at Federico II University of Naples
- Gabriella Carrozza, SESM, Finmeccanica
- Theophilus Benson, Princeton University
- Massimiliano Albanese, George Mason University

The 1st Workshop on Systems Resilience (WSR)

- Hiroshi Maruyama, The Institute of Statistical Mathematics, Japan
- Takashi Nanya, Canon Inc., Japan
- Patricia Longstaff, Syracuse University, USA
- Chitta Baral, Arizona State University, USA
- Kazuo Furuta, University of Tokyo, Japan
- Katsumi Inoue, National Institute of Informatics, Japan
- Thomas Koslowski, Universitat Freiburg, Germany
- Kazuhiro Minami, Institute of Statistical Mathematics, Japan
- Gunter Muller, Universitat Freiburg, Germany
- David Raisz, Budapest University of Technology and Economics, Hungary
- James B. Steinberg, Syracuse University, USA

2nd Workshop on Open Resilient human-aware Cyber-physical Systems (WORCS)

- Mohamed Kaâniche, LAAS-CNRS, France
- Michael Harrison, Queen Mary U. London, UK
- Hermann Kopetz, Technical U. Vienna, Austria
- Daniel Siewiorek, CMU, USA
- Jean Arlat, LAAS-CNRS, France
- Jiannong Cao, Polytechnic U. Hong Kong
- John Fitzgerald, Newcastle U., UK
- Hamed Haddadi, QMUL, UK
- Zbigniew Kalbarczyck, UIUC, USA
- Johan Karlsson, Chalmers U., Sweden
- Phil Koopman, Carnegie Mellon U., USA
- Karl Koscher, Washington U., USA
- Insup Lee, Pennsylvania U., USA
- Jane Liu, Academica Sinica, Taiwan
- Ivan Martinovic, University of Oxford, UK
- Keith Marzullo, NSF, USA
- Nuno Neves, U. Lisboa, Portugal
- Roman Obermaisser, U. Siegen, Germany
- Frank, Ortmeier, U. Magdeburg, Germany
- Philippe Palanque, IRIT, France
- Michael Paulitsch, EADS IW, Germany
- Janos Sztipanovits, Vanderbilt U., USA
- Harold Thimbleby, Swansea U., UK

Tutorial: Beyond the glamour of Byzantine Fault Tolerance: OR why resisting intrusions means more than BFT

- Paulo Veríssimo, Univ. Lisboa

Tutorial: Correct-by-Construction Development of Dependable Systems

- Alexander Romanovsky, Newcastle University

Tutorial: Living in a Trustworthy Cyberspace

- Roberto Baldoni, Sapienza University

Monday, June 24th

	Workshops				Tutorials	
	DCDV Dependability of Clouds, Data Centers and Virtual Machine Technology *Location: Corso B*	**RSDA** Reliability and Security Data Analysis *Location: Corso A*	**WORCS** Open Resilient Human-aware Cyber-Physical Systems *Location: Margit A*	**WSR** Systems Resilience *Location: Margit B*	Tutorial 1 (Chair: Robert Schwarz) *Location: Lánchíd B*	Tutorial 2 (Chair: Allen Wood) *Location: Lánchíd A*
8:30 – 8:45	Opening Remarks	Opening Remarks *C. Di Martino, A. Pecchia, J. Stearley*	Introduction *M. Kaâniche*		P. Verissimo: **Beyond the glamour of Byzantine Fault Tolerance: OR why resisting intrusions means more than BFT** (half-day)	A. Romanovsky: **Correct-by-Construction Development of Dependable Systems** (full-day)
8:45 – 10:00	Session 1: **Cloud and Data Center Networking**	Session 1: **Security Data Analysis and Modeling**	Session 1: **Human Interactive Automated Driving Systems**			
	Towards SDN Enabled Network Control Delegation in Clouds *S. Malik, M. Montanari, J. Ho Huh, R. Bobba, R. Campbell*	Keynote: The Role of Data for Safety Critical Systems Development and Validation *N. Silva (Critical Software Inc.)*	Keynote : Toward Vehicle Automation - ADAS The New Challenges *S. Boverie*			
	Fault-Tolerance Characteristics of Data Center Network Topologies Using Fault Regions *Y. Liu, J. Muppala*	Data Fusion-Based Anomaly Detection in Networked Critical Infrastructures *B. Genge, C. Siaterlis, G. Karopoulos*	Autonomous Emergency Braking : A System-of-Systems Perspective *H. Kopetz, S. Poledna*			
		Investigating DNS Traffic Anomalies for Malicious Activities *F. Yarochkin, V. Kropotov, Y. Huang, S.-Y. Kuo, G.-K. Ni, I.-Y Chen*				
		Scalable Security Analysis in Hierarchical Attack Representation Model using Centrality Measures *J. B. Hong, D. S. Kim*				
10:00 – 10:30			Break	10:15: Chair's Welcome Remarks *H. Maruyama*		

Time	Session 2: Dependability Evaluation	Session 2: Failures and Robustness Analysis	Session 2: Security	Session 1: Resilience Definitions and Research Opportunities (Chair: Patricia Longstaff)	P. Verissimo: **Beyond the glamour of Byzantine Fault Tolerance: OR why resisting intrusions means more than BFT** (cont'd)	A. Romanovsky: **Correct-by-Construction Development of Dependable Systems** (cont'd)
10:30 – 12:00	Availability Study on Cloud Computing Environments: Live Migration as a Rejuvenation Mechanism *M. Melo, P. Maciel, J. Araujo, R. Matos, C. Araújo*	Automatic Collection of Failure Data from the iOS Platform *M. Cinque, D. Cotroneo, C. R. Dominguez, J. L. Garrido*	Keynote: Detecting Cognitive State for Operators of Cyber-Physical Systems: Design of Experiments *R. Maxion*	Towards Systems Resilience *H. Maruyama*		
	Dependability Models for Designing Disaster Tolerant Cloud Computing Systems *B. Silva, P. Maciel, E. Tavares, A. Zimmermann*	Towards Evaluating the Impact of Data Quality on Service Applications *N. Ivaki, N. Laranjeiro, M. Vieira*	A Survey of Security Threats and Protection Mechanisms in Embedded Automotive Networks *I. Studnia, V. Nicomette, E. Alata, Y. Deswarte, M. Kaâniche, Y. Laarouchi*	FORISK: Formalizing Information Security Risk and Compliance Management *S. Fenz, T. Neubauer, R. Accorsi, T. Koslowski*		
	Analysis of Bugs in Apache Virtual Computing Lab *F. Frattini, R. Ghosh, M. Cinque, A. Rindos, K. Trivedi*	Golden-run Alignment for Analysis of Robustness Testing Results: Dealing with Diagnostics Issues *G. Lemos, E. Martins*		Key Issues in Service Systems Resilience *K. Furuta, T. Kanno*		
		Authors' Panel		SCoRe: An Across-the-Board Metric for Computer Systems Resilience Benchmarking *R. Almeida, A.A. Neto, M. Vieira*		
12:00 – 13:30	Lunch					
13:30 – 15:00	Session 3: **Mobile and Cloud Computing**	Session 3: **Data-Driven Dependability**	Session 3: **Smart Cooperative Driving**	Session 2: **Modeling Resilience** (Chair: Thomas Koslowski)	R. Baldoni: **Living in a trustworthy cyberspace** *Location: Lánchíd B*	A. Romanovsky: **Correct-by-Construction Development of Dependable Systems** (cont'd)
	Model-based Performance Analysis of Local Re-execution Scheme in Offloading System *Q. Wang, H. Wu, K. Wolter*	Reducing Service Failures by Failure and Workload aware Load Balancing in SaaS Clouds *A. Roy, R. Ganesan, D. Dash, S. Sarkar*	On Reliability Analysis of Leader Election Protocols for Virtual Traffic Lights *N. Fathollahneja, E. Villani, R. Pathan, R. Barbosa, J. Karlsson*	Model-Based Evaluation of System Resilience *J. Meyer*		
	DataFlasks: an epidemic dependable key-value substrate *F. Maia, M.Matos, R. Vilaça, J. Pereira, R. Oliveira, E. Rivière*	Storage-Efficient Data Replica Number Computation for Multi-level Priority Data in Distributed Storage System *C. Cai, C. Abad, R. Campbell*	The KARYON project: Predictable and Safe Coordination in Cooperative Vehicular Systems *A. Casimiro, J. Kaiser, E. M. Schiller, P. Costa, J. Parizi, R. Johansson, R. Librino*	Resilience Modeling by Means of a Set of Recursive Functions *M. T. Signes, J. M. García, H. Mora, J. Mora*		

	Virtualization/Cloud	Data-Driven Security	Panel/Workshop	Resilient Systems		A. Romanovsky
	Lilliput meets Brobdingnagian: Data Center Systems Management through Mobile Devices *S. Bagchi, F.Arshad, J. Rellermeyer, T. Osiecki, M. Kistler, A. Gheith*	Predicting Job Completion Times Using System Logs in Supercomputing Clusters *X. Chen, C -D. Lu, K. Pattabiraman*	Driver Performance in the Presence of Adaptive Cruise Control Related-Failures *J. Nilsson, N. Strand, P. Falcone, J. Vinter*	Behavioral aspects for agent-based models of resilient urban systems *T. Brudermann, Y. Yamagata*		
		Reliable Mission Deployment in Vulnerable Distributed Systems *M. Albanese, S. Jajodia, R. Jhawar, V. Piuri*				
15:00 – 15:15	Break					
15:15 – 17:00	**Session 4:** **Virtualization and Cloud**	**Session 4:** **Data-Driven Security**	**Session 4:** **Panel and Workshop Wrap-up**	**Session 3:** **Building Resilient Systems** (Chair: Kazuhiro Minami)		A. Romanovsky: **Correct-by-Construction Development of Dependable Systems** (cont'd)
	Increasing the Trustworthiness of Commodity Hardware Through Software *K. Elphinstone, Y. Shen*	Practical Experiences with Real-world Systems: Security in the World of Reliable and Safe Systems *N. Silva, R. Lopes*	Panel: Human Interactive Autonomous Driving: Future Trends, Resilience Challenges and Research perspectives *Panelists: S. Boverie, J. Karlsson, H. Kopetz, J. Vinter*	An Intrusion-Tolerant Firewall Design for Protecting SIEM Systems *M. Garcia, N. Neves, A. Bessani*		
	Intrusion Detection and Honeypots in Nested Virtualization Environments *M. Beham, M. Vlad, H. P. Reiser*	Interoperability in Fingerprint Recognition - A Large Scale Empirical Study *L. Lugini, E. Marasco, B. Cukic, I. Gashi*	Workshop Wrap-up and Conclusions	Community-based Resilient Electricity Sharing: Optimal Spatial Clustering *Y. Yamagata, H. Seya*		
	Addressing Memory Exhaustion Failures in Virtual Machines in a Cloud Environment *J. Navas Molina, S. Mishra*	Authors' Panel		Cyber Security Problem based on Multi-Objective Distributed Constraint Optimization Technique *T. Okimoto, N. Ikegai, T. Ribeiro, K. Inoue, H. Okada, H. Maruyama*		
		Concluding remarks *C. Di Martino, A. Pecchia, J. Stearley*				
18:30 – 20:00	**Welcome Reception** Location: Hungarian Academy of Sciences					

Tuesday, June 25th

Time		
8:15 – 9:00	**Welcome address**	
9:00 – 10:15	Plenary Session	
	Keynote address 1. - **Ken Birman**: Adapting High Assurance Distributed Computing Techniques for Cloud-Scale Settings (Chair: George Candea)	
10:15 – 10:45	Presentation of the Carter Award Winner	
	Hector: Detecting Resource-Release Omission Faults in Error-Handling Code for Systems Software *S. Saha, J.-P. Lozi, G. Thomas, J. Lawall, G. Muller*	
10:45 – 11:15	Break	

11:15 – 12:45	DCCS: **Clouds We Can Trust** (Chair: Paulo Verissimo)	PDS: **Operating Systems Security** (Chair: Marco Vieira)
	CloudPD: Problem Determination and Diagnosis in Shared Dynamic Clouds *B. Sharma, P. Jayachandran, A. Verma, C. Das*	DRIP: A Framework for Purifying Trojaned Kernel Drivers *Z. Gu, W. N. Sumner, Z. Deng, X. Zhang, D. Xu*
	Mitigating Access-Driven Timing Channels in Clouds using StopWatch *P. Li, D. Gao, M. Reiter*	SPECTRE: A Dependable Introspection Framework via System Management Mode *F. Zhang, K. Leach, K. Sun, A. Stavrou*
	EagleEye: Towards Mandatory Security Monitoring in Virtualized Datacenter Environment *Y-S. Wu, P-K. Sun, C-C. Huang, S-F. Lai, Y-Y. Chen, S-J. Lu*	Manipulating Semantic Values in Kernel Data Structures: Attack Assessments and Implications *A. Prakash, E. Venkataramani, H. Yin, Z. Lin*

12:45 – 14:00	Lunch	

14:00 – 15:30	DCCS: **Debugging and Diagnosis** (Chair: Ashvin Goel)	PDS: **Stochastic Modeling Techniques** (Chair: Lydia Chen)
	Why is My Smartphone Slow? On The Fly Diagnosis of Poor Performance on Mobile Internet *C. Amrutkar, M. Hiltunen, T. Jim, K. Joshi, O. Spatscheck, P. Traynor, S. Venkataraman*	A Logic for Model-Checking Mean-Field Models *A. Kolesnichenko, A. Remke, P.-T. de Boer, B. Haverkort*
	Lightweight Message Tracing for Debugging Wireless Sensor Networks *V. Sundaram, P. Eugster*	Lumpability of Fluid Models with Heterogeneous Agent Types *G. Iacobelli, M. Tribastone*
	Automating the Debugging of Datacenter Applications with ADDA *C. Zamfir, G. Altekar, I. Stoica*	Fitting Second-Order Acyclic Marked Markovian Arrival Processes *A. Sansottera, G. Casale, P. Cremonesi*

15:30 – 16:00	Break	

16:00 – 17:30	DCCS: **Distributed Dependability** (Chair: Neeraj Suri)	PDS: **Virtualization** (Chair: Boudewijn Haverkort)
	Fault Detection and Localization in Distributed Systems using Invariant Relationships *A. Sharma, H. Chen, M. Ding, K. Yoshihira, G. Jiang*	SIDE: Isolated and Efficient Execution of Unmodified Device Drivers *Y. Sun, T. Chiueh*
	Increasing Network Resiliency by Optimally Assigning Diverse Variants to Routing Nodes *A Newell, D. Obenshain, T. Tantillo, C. Nita-Rotaru, Y. Amir*	Security Implications of Memory Deduplication in a Virtualized Environment *J. Xiao, Z. Xu, H. Huang. H. Wang*
	Distal: A Framework for Implementing Fault-tolerant Distributed Algorithms *M. Biely, P. Delgado, Z. Milosevic, A. Schiper*	State-of-the-Practice in Data Center Virtualization: Toward a Better Understanding of VM Usage *R. Birke, A. Podzimek, L. Y. Chen and E. Smirni*

Wednesday, June 26th

8:30 – 9:45	**Plenary Session** Keynote address 2. - **Rashik Parmar**: A Glimpse into the Future of Dependable Systems (Chair: Doug Blough)
9:45 – 10:00	Break

10:00 – 11:30	DCCS: **Coping with Errors** (Chair: Saurabh Bagchi)	PDS: **Memory and Caches** (Chair: Karama Kanoun)
	Generative Software-based Memory Error Detection and Correction for Operating System Data Structures *C. Borchert, H. Schirmeier, O.Spinczyk*	FTSPM: A Fault-Tolerant Scratchpad Memory *A. Mahdi, H. Monazzah, H. Farbeh, S. G. Miremadi, M. Fazeli, H. Asadi*
	An Algorithmic Approach to Error Localization and Partial Recomputation for Low-Overhead Fault Tolerance *J. Sloan, G. Bronevetsky, R. Kumar*	PHYS: Profiled-Hybrid Sampling for Soft Error Reliability Benchmarking *J. Suh, M. Annavaram, M. Dubois*
	simFI: From Single to Simultaneous Software Fault Injections *S. Winter, M. Tretter, B. Sattler, N. Suri*	Error Detector Placement for Soft Computation *A. Thomas, K. Pattabiraman*

11:45 – 12:00	**Special Address: Marina von Neumann** (Chair: Roberto Baldoni)
12:00 – 12:45	Lunch

12:45 – 14:15	DCCS: **Seamless, Graceful, and Transparent** (Chair: Gilles Muller)	PDS: **Experimental Studies and Data Analysis** (Chair: Felicita di Giandomenico)
	Chasing the Optimum in Replicated In-memory Transactional Platforms via Protocol Adaptation *M Couceiro, P. Ruivo, P. Romano, L. Rodrigues*	A Practical Characterization of a NASA Spacecube Application through Fault Emulation and Laser Testing *J. P. Walters, K. Zick, M. French*
	Seamless Kernel Updates *M. Siniavine, A. Goel*	An Empirical Investigation of Fault Repairs and Mitigations in Space Mission System Software *J. Alonso, M. Grottke, A. Nikora, K. Trivedi*
	Application-Driven TCP Recovery and Non-Stop BGP *R. Surton, K. Birman, R. van Renesse*	Reading between the Lines of Failure Logs: Understanding How HPC Systems Fail *N. El-Sayed, B. Schroeder*

14:15 – 14:30	Break

14:30 – 15:30	DCCS: **The Solid Bottom of the System Stack** (Chair: Zbigniew Kalbarczyk)	PDS: **Wireless Networks** (Chair: Evgenia Smirni)
	Operating SECDED-Based Caches at Ultra-Low Voltage with FLAIR *M. Qureshi, Z. Chishti*	Guaranteeing Proper-Temporal-Embedding Safety Rules in Wireless CPS: A Hybrid Formal Modeling Approach *F. Tan, Y. Wang, Q. Wang, L. Bu, R. Zheng, N. Suri*
	Stress Balancing to Mitigate NBTI Effects in Register Files *H. Amrouch, T. Ebi, J. Henkel*	Wirelesshart Modeling And Performance Evaluation *A. Remke, X. Wu*

15:50 – 22:30	**Excursion and Banquet**

Thursday, June 27th

8:30 – 9:45	Plenary Session	

Plenary Session

Keynote address 3. - **László Lovász**: Large Networks and Their Mathematical Theory
(Chair: András Pataricza)

9:45 – 10:15 — Break

10:15 – 11:45

DCCS: **Keeping Safe in a Connected World** (Chair: Cristina Nita-Rotaru)	PDS: **Storage Systems** (Chair: Peter Kemper)	**Fast Abstracts-1** (Chair: Elias Duarte)
Detecting Malicious Landing Pages in Malware Distribution Networks *G. Wang, J. Stokes, C. Herley, D. Felstead*	Improving SSD Reliability with RAID via Elastic Striping and Anywhere Parity *J. Kim, J. Choi, D. Lee, S. H. Noh*	A Review of Cloud Deployment Models For E-Learning Systems *E. Leloglu, T. Ayav, B. G. Aslan*
Redefining Web Browser Principals with a Configurable Origin Policy *Y. Cao, V. Rastogi, Z. Li, Y. Chen, A. Moshchuk*	Geo-Replicated Storage with Scalable Deferred Update Replication *D. Sciascia, F. Pedone*	A View on the Past and Future of Fault Injection *N. Silva, R. Barbosa, J. C. Cunha, M. Vieira*
Practical Automated Vulnerability Monitoring Using Program State Invariants *C. Giuffrida, L. Cavallaro, A. S. Tanenbaum*	Consistency or Latency? A Quantitative Analysis of Replication Systems Based on Replicated State Machines *X. Wang, H. Sun, T. Deng*	An Adaptive Approach to Dependable Circuits for a Digital Power Control *A Saysanasongkham, K. Imai, M. Aarai, S. Fukumoto, K. Wada*
		Modeling and Analysing Operation Processes for Dependability *X. Xu, L. Zhu, J. Li, L. Bass, Q. Lu, M. Fu*
		Design of Event-Based Intrusion Detection System on OpenFlow Network *Y.-Li Hu, W.-B. Su, L.-Y. Wu, Y. Huang, S.-Y. Kuo*
		Evaluating Xilinx SEU Controller Macro for Fault Injection *J. L. Nunes, J. C. Cunha, R. Barbosa, M. Zenha-Rela*

11:45 – 12:45 — Lunch

12:45 – 14:15

Student Papers: **Software & Network Dependability** (Chair: Takashi Nanya)	PDS: **Network security** (Chair: Ilier Gashi)	**Fast Abstracts-2** (Chair: Dong Seong Kim)
A Framework for Runtime V&V in Business-Critical Service Oriented Architectures *C. Areias*	Uniform Node Sampling Service Robust Against Collusions of Malicious Nodes *E. Anceaume, Y. Busnel, B. Sericola*	Complementing Static and Dynamic Analysis Approaches For Better Network Defense *H. Pareek*
Barley: Modelling Program Behavior with Resource Usage *K. Leach*	Implementing the ADVISE Security Modeling Formalism in MOBIUS *M. Ford, K. Keefe, E. LeMay, W. Sanders, C. Muehrcke*	Network Traffic Anomaly Detection based on Growing Hierarchical SOM *S.-Y. Huang, Y.-N. Huang*
Fault-Tolerant Broadcast Algorithms for the Virtual Hypercube Topology *L. A. Rodrigues*	Crossing the Threshold: Detecting Network Malfeasance via Sequential Hypothesis Testing *S. Krishnan, T. Taylor, F. Monrose, J. McHugh*	Performability analysis of RAID10 versus RAID6 *F. Machida, J. Xiang, K. Tadano, Y. Maeno, T. Horikawa*
		The Architecture of a Resilience Infrastructure for Computing and Communication Systems *A. Avizienis*
		Towards Secure Monitoring and Control Systems: Diversify! *D. Cotroneo, A. Pecchia, S. Russo*

14:15 – 14:30 — Break

	Student Papers: **Hardware Dependability** (Chair: Yair Amir)	PDS: **Internet security** (Chair: Robin Berthier)
14:30 – 15:30	Improving the Dependability of FPGA-based real-time embedded systems with Partial Dynamic Reconfiguration *J. L. Nunes*	Locality Matters: Reducing Internet Traffic Graphs Using Location Analysis *A. Berger, S. Rührup, W. Gansterer, O. Jung*
	Detecting and Tolerating Data Corruptions Due to Device Driver Defects *F. Fucci*	Evasive Bots Masquerading as Human Beings on the Web *J. Jin, J. Offutt, N. Zheng, F. Mao, A. Koehl, H. Wang*
	IOCheck: A Framework to Enhance the Security of I/O Devices at Runtime *F. Zhang*	
15:30 – 16:30	**Technical Committee Meeting (Open to All)**	