

# Curriculum Vitae

## GENERAL INFORMATION

Name	ALESSANDRA SALA
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Nationality	Italian

## OBJECTIVES

I like working in challenging environments where I am able to engage with talented, bright and energetic people with different cultures and backgrounds. Sharing my passion for the knowledge and the scientific research with young students is my favorite rewarding. My research interests are in algorithms and complexity, distributed data structures, peer-to-peer networks and privacy issues in large scale systems.

## EDUCATION AND TRAINING

**PhD Program in Computer Science** *November 1<sup>st</sup> 2004 - May 16<sup>th</sup> 2008*

Università degli Studi di Salerno (Italy) - Advisors: Prof. A. Negro and Prof. V. Scarano (November 2004 - May 2008).

**Laurea Degree in Computer Science, 5 Year Program** *October 1999 - July 2004*

Department of Computer Science, Università degli Studi di Salerno, Italy. Laurea Degree in Computer Science (five years): Laurea Degree in Computer Science cum laude (course of studies: Computer Networks) at Università degli Studi di Salerno (July, 15<sup>th</sup> 2004)

## WORK EXPERIENCES

**Research Scientist** *January 2012 - Present, Bell Labs, Alcatel-Lucent - Ireland*

Research Scientist in the Industrial Mathematics and Operations Research (IMOR) group within the Enabling Computing Technologies (ETC) domain. I am involved in several projects among which: Big Data Analytics, Graph Modeling, Privacy Issues in Large Scale Systems and Cloud Security.

**Associate Researcher** *June 2010 - December 2011, University of California at Santa Barbara - USA*

Associate Researcher in the Department of Computer Science at University California Santa Barbara. I was involved in several projects among which: Data Analysis, Graph Modeling, Security in Large Scale Networks, Privacy in Social Networks.

**Visiting Researcher** *April 2011, Cisco System Inc, San Jose, California - USA*

Consultant for Cisco System on the following projects: "Privacy trends in mobile routing protocols" and "Privacy issues on network data".

**Post-Doctoral scholar** *June 2008 - May 2010, University of California at Santa Barbara - USA*

Post-Doctoral scholar under supervision of Prof. Ben Y. Zhao. I was involved in several projects among which: Security in Large Scale Networks, Privacy in Social Networks and Cloud Computing for Query-based Networks.

**Research scholar** *January 2007 - December 2007, University of California at Santa Barbara - USA*

Researcher scholar under supervision of Prof. Ben Y. Zhao. I was involved in two projects: “Searching for Rare Objects using Index Replication” and “Defending Anonymity against Predecessor Attack in Peer-to-Peer Networks”.

**Visiting scholar** *June 2006 - August 2006, ETH Zurich - Switzerland*

Visiting scholar under supervision of Prof. Roger Wattenhofer. I was involved in the following project: “Exploring proximity in a Structured Peer-to-Peer Network”.

## TEACHING EXPERIENCES

**Operating Systems** *January 2005 - April 2005 / January 2008 - April 2008 Università degli Studi di Salerno, Italy.* I taught two classes of about 15 students, covering the main concepts of Operating Systems.

**Programming Fundamentals** *January 2005 - April 2005 / January 2008 - April 2008 Università degli Studi di Salerno, Italy.* I taught two classes in this area, covering the main concepts of programming principles.

## AWARDS AND GRANTS

**Research Grant** *August 2010 - August 2011*

Co-Principal Investigator of the research proposal entitled: “Understanding and Using the Human Network to Improve the Internet Experience” sponsored by Cisco University Research Program Fund of \$100000.

## PUBLICATIONS

“*Sharing Graphs using Differentially Private Graph Models*”, with Xiaohan Zhao, Christo Wilson, Haitao Zheng, and Ben Y. Zhao. In Proceedings of the Internet Measurement Conference (ACM IMC’11). November 2011, Berlin, Germany.

“*Efficient Shortest Paths on Massive Social Graphs*”, with Xiaohan Zhao, Haitao Zheng and Ben Y. Zhao. In Proceedings of 7<sup>th</sup> IEEE International Conference on Collaborative Computing: Networking, Applications and Worksharing (CollaborateCom’11). October 2011, Orlando, Florida, USA.

“*Privacy, Availability and Economics in the Polaris Mobile Social Network*”, with Christo Wilson, Troy Steinbauer, Gang Wang, Haitao Zheng and Ben Y. Zhao. In Proceedings of the 12<sup>th</sup> ACM Workshop on Mobile Computing Systems and Applications (HotMobile’11). March 2011, Phoenix, Arizona, USA.

“*Revisiting the Power-law Degree Distribution for Social Graph Analysis*”, with Sabrina Gaito, Gian Paolo Rossi, Haitao Zheng and Ben Y. Zhao. In Proceedings of the 29<sup>th</sup> Annual Symposium of Principles of Distributed Computing (PODC’10). July 2010, Zurich Switzerland.

“*Orion: Shortest Path Estimation for Large Social Graphs*”, with Xiaohan Zhao, Christo Wilson, Haitao Zheng and Ben Y. Zhao. In Proceedings of the 3<sup>rd</sup> USENIX Workshop on Online Social Networks (WOSN’10). June 2010, Boston MA, USA.

“*Don’t Tread on Me: Moderating Access to Online Data with SpikeStrip*”, with Christo Wilson, Robert Zablit, Joseph Bonneau, and Ben Y. Zhao. In Proceedings of the 3<sup>rd</sup> USENIX Workshop on Online Social Networks (WOSN’10). June 2010, Boston MA, USA.

“*Measurement-calibrated Graph Models for Social Network Experiments*”, with Lili Cao, Christo Wilson, Robert Zablit, Haitao Zheng, and Ben Y. Zhao. In Proceedings of the 19<sup>th</sup> International World Wide Web Conference (WWW’10). April 2010, Raleigh NC, USA.

“*StarClique: Guaranteeing User Privacy in Social Networks Against Intersection Attacks*”, with Krishna P. N. Puttaswamy, and Ben Y. Zhao. In Proceedings of the 5<sup>th</sup> ACM International Conference on emerging Networking EXperiments and Technologies ( ACM CoNEXT’09). December 2009, Rome, Italy.

“*Relaxed-2-Chord: Efficiency, Flexibility and Provable Stretch*”, with Gennaro Cordasco, Francesca Della Corte, Alberto Negro, and Vittorio Scarano. In Proceedings of the IEEE International Parallel & Distributed Processing Symposium (IPDPS’09). May 2009, Rome, Italy.

“*Rome: Performance and Anonymity using Route Meshes*”, with Krishna P. N. Puttaswamy, Omer Egecioglu, and Ben Y. Zhao. In Proceedings of the 28<sup>th</sup> Conference on Computer Communications (INFOCOM’09). April 2009, Rio de Janeiro, Brasil.

“*User Interactions in Social Networks and their Implications*”, with Christo Wilson, Bryce Brue, Krishna P. N. Puttaswamy, and Ben Y. Zhao. In Proceedings of ACM EuroSys 2009. April 2009, Nuremberg, Germany.

“*Protecting Anonymity in Dynamic Peer-to-Peer Networks*”, with Krishna P. N. Puttaswamy, and Ben Y. Zhao. In Proceedings of the 16<sup>th</sup> IEEE International Conference on Network Protocols (ICNP’08). October 2008, Orlando, Florida, USA.

“*Improving Anonymity using Social Links*”, with Krishna P. N. Puttaswamy, and Ben Y. Zhao. In Proceedings of the 4<sup>th</sup> workshop on Secure Network Protocols (NPSec’08). October 2008, Orlando, Florida, USA.

“*Searching for Rare Objects using Index Replication*”, with Krishna P. N. Puttaswamy, and Ben Y. Zhao. In Proceedings of the 27<sup>th</sup> Conference on Computer Communications (INFOCOM’08). April 2008, Phoenix, Arizona, USA.

“*PON: Exploiting Proximity on Overlay Networks*”, with Genanro Cordasco, Alberto Negro, and Vittorio Scarano. In Proceedings of the IEEE International Parallel & Distributed Processing Symposium (IPDPS’07). March 2007, Long Beach, California, USA.

“*2-Chord Halved*”, with Gennaro Cordasco. In Proceedings of the International Workshop on Hot Topics in Peer-to-Peer Systems (Hot-P2P05). July 2005, San Diego, California, USA.

“*Tecnologie Wireless e standard IEEE 802.11*”, with Daniela De Maio, Raffaele Aloisio, Pasquale Ambrosio, and Alfredo De Santis. Published in “Wireless Italia, il primo portale sul wireless in Italia”.

## COMMITTEE SERVICES

### Technical Program Committee Member

Workshop on Online Social Networks (WOSN), co-located with SIGCOMM 2012

IEEE Next Generation Networking Symposium (ICC-NGN ’12)

Protocols Network Architecture & P2P Protocols (NAPP) Symposium (ICNC '12)  
 Traffic Monitoring and Analysis (TMA), co-located with PAM 2012  
 The 8<sup>th</sup> International Conference on Networking and Services (ICNS '12)  
 The 11<sup>th</sup> IEEE International Conference on Peer-to-Peer Computing (P2P '11 )  
 IEEE Next Generation Networking and Internet Symposium (ICC-NGNI '11)  
 International Conference on Advances in Social Network Analysis and Mining (ASONAM '11)  
 The 4<sup>th</sup> IFIP Wireless Days (WD '11)  
 The 24<sup>th</sup> IEEE International Parallel and Distributed Processing Symposium (IPDPS '10)  
 The 10<sup>th</sup> IEEE International Conference on Peer-to-Peer Computing (P2P '10)  
 The 2<sup>nd</sup> International Workshop on Search and Mining User-generated Contents (CIKM-SMUC '10)  
 The 3<sup>rd</sup> IFIP Wireless Days (WD '10)

### **Serving Reviews**

IEEE Transactions on Computers (TC '11)  
 The International Journal on Very Large Data Bases (VLDB Journal '10 -'11)  
 Journal of Parallel and Distributed Computing, Elsevier (JPDC '09 -'11)  
 IEEE Journal on Selected Areas in Communications (J-SAC '09 -'11)  
 The 13<sup>th</sup> ACM International Conference on Ubiquitous Computing (UbiComp '11)  
 The 29<sup>th</sup> IEEE International Conference on Computer Communications (INFOCOM '10)  
 The 6<sup>th</sup> ACM International Conference on emerging Networking EXperiments and Technologies (CoNEXT '10)  
 IEEE Global Communications Conference (GLOBECOM '10)  
 The 9<sup>th</sup> IEEE International Conference on Peer-to-Peer Computing (P2P '09)  
 The 28<sup>th</sup> IEEE International Conference on Computer Communications (INFOCOM '09)

### **Publicity Chair**

The 18<sup>th</sup> IEEE International Conference on Network Protocols (ICNP '10)

### **Session Chair**

The 29<sup>th</sup> IEEE International Conference on Computer Communications (INFOCOM '10)

## **TALKS & SEMINARS**

### **Invited Talks:**

*Delft University of Technology: TU Delft, Netherlands 2012.* “Sharing Graphs using Differentially Private Graph Models”.

*Ladies Section of Computer Research Institute, Riyadh, Saudi Arabia 2011.* “Fast and Scalable Analysis of Massive Social Graphs”.

*The 2011 Saudi International Conference on Information Technology, Riyadh, Saudi Arabia 2011.* “Privacy Issues in Measuring and Analyzing Massive Network Graphs”.

*Telefonica Research Lab, Barcelona, Spain 2011.* “Sharing Network Graphs while Preserving User Privacy”.

*INRIA, Grenoble - Rhone-Alpes, France 2011.* “Privacy Preserving Social Graph Model”.

*University of California Irvine, California 2011.* “Protecting User Privacy in the Measurement and Analysis of Networks”.

*Cisco System Headquarter, San Jose 2011.* “Achieving Practical Privacy in Modern Large Scale Networks”.

*Korea Advanced Institute of Science and Technology (KAIST), Seoul 2011,* department of Computer Science. “Anonymous Graphs in Online Social Networks”.

*Workshop on Social Networks and Distributed Systems (SNDS '10).* “Measurement-calibrated Graph Models for Social Network Experiments”.

*Università LA Sapienza, Roma 2010,* dipartimento di Statistica, Probabilità e Statistiche Applicate. “The Statistical Similarities of Synthetic Social Networks”.

*Università Torvergata, Roma 2010,* dipartimento di Ingegneria Elettronica. “Fidelity of Synthetic Small World Graphs”.

*Università Federico II, Napoli 2010,* dipartimento di Informatica e Sistemistica. “The Private Aspects of Graph Generative Models”.

*UFF-Universidade Federal Fluminense, Rio de Janeiro 2009.* “Quality of Services and Security of Anonymous Systems”.

### **Conference Talks:**

*PODC 2010, the 29<sup>th</sup> Annual Symposium of Principles of Distributed Computing:* “Revisiting the Power-law Degree Distribution for Social Graph Analysis”.

*WWW 2010, the 19<sup>th</sup> International World Wide Web Conference:* “Measurement-calibrated Graph Models for Social Network Experiments”.

*INFOCOM 2009, the 28<sup>th</sup> IEEE Conference on Computer Communications:* “Rome: Performance and Anonymity using Route Meshes”.

*NPSec 2008, the 4<sup>th</sup> workshop on Secure Network Protocols:* “Improving Anonymity using Social Links”.

*IPDPS 2007, the IEEE International Parallel & Distributed Processing Symposium:* “PON: Exploiting Proximity on Overlay Networks”.

*Hot-P2P05, the International Workshop on Hot Topics in Peer-to-Peer Systems:* “2-Chord Halved”.

## ADDITIONAL INFORMATION

### Contact Persons

**Prof. Ben Y. Zhao**

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email: ravenben@cs.ucsb.edu  
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**Prof. Sue Moon**

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