



IEEE IC2E 2015

Conference Program

March 9-12, 2015
Tempe, Arizona, USA

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**IEEE International Conference on Cloud
Engineering**

IC2E 2015

**March 9-12 2015
Tempe, Arizona, USA**

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WELCOME MESSAGE

We are delighted to welcome you to IC2E'15, the 2015 edition of the IEEE International Conference on Cloud Engineering (IC2E), in Tempe, Arizona, in the southwest of the United States.

IC2E 2015 hosts an exciting technical program, with two keynote talks by leaders in the field, regular and short research paper presentations, panels, tutorials, and industrial presentations and practitioners' talks, and workshops co-located with the conference. IC2E 2015 also includes several technical and social events designed specifically for student attendees. In addition to the Ph.D. Symposium, the program also includes "vis-à-vis" meetings aimed at helping Ph.D. students meet internationally recognized researchers in their research areas, to exchange ideas and receive guidance in a relaxed social setting.

We are immensely grateful to the many researchers who have shaped the conference program. In particular, we thank the authors who submitted their works to the conference, Program Chairs, Christian S. Jensen (Aalborg University), Manish Parashar (Rutgers University), and Hunyoung Yeom (Seoul National University), along with all members of the Program Committee, Keynotes and Panels Chair, Geoffrey Fox (Indiana University), Tutorials Chairs, Marco Aldinucci (University of Torino) and Jun Tatemura (NEC Labs); Industrial Program Chair, Partha Kanuparth (Yahoo! Research), together with the members of the Industrial Program Committee; Workshop Chairs, David Eysers (University of Otago) and Liana Fong (IBM Research); and PhD Symposium Chairs, Maria Luisa Sapino (University of Torino) and Mijung Kim (HP Labs). We also acknowledge organizing committee members who have enabled the conference through their immense work including the Local Arrangements Chair, Dijiang Huang (Arizona State University); Finance Chair, Shu Tao (IBM Research); Proceedings Chair, Jong Wook Kim (Sangmyung University); Web and Information Chair, Yinong Chen (Arizona State University); Registration Chair, Mithila Nagendra (Akamai); and Publicity Chairs, Salman Baset (IBM Research) and Ivan Rodero (Rutgers University). We also extend our appreciation to the student volunteers.

We also acknowledge the members of the IC2E Steering Committee, for invaluable help and guidance throughout the many months leading to the conference. Hui Lei deserves special thanks for providing us with his advice at all stages of the conference organization. We are also grateful to the EasyChair team for their extremely prompt and helpful support throughout the complex conference reviewing process. (We used the EasyChair platform for the submission and reviewing of research papers and industrial presentations.) We also give our most sincere thanks to IEEE for their support and the IEEE CPS team for their immense help in preparing the proceedings for publication.

We thank the IC2E 2015 supporters, IBM, LG Electronics, and the Cloud Computing Initiative at Boston University, whose contributions helped to maintain the conference registration fees low, most significantly for student attendees. Arizona State University has also extended their generous support to the conference, both by sponsoring student travel awards and providing the venue and AV equipment for the conference.

We welcome you to Tempe and we sincerely hope that you will enjoy IC2E 2015.

K. Selçuk Candan, *Arizona State University*
Kyung Dong Ryu, *LG Electronics*
General Chairs

CONFERENCE ORGANIZATION

General Chairs	K. Selçuk Candan, Arizona State University, USA Kyung Ryu, LG Electronics, Korea
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Doctoral Symposium and Travel Awards Chairs	Maria Luisa Sapino, University of Torino, Italy Mijung Kim, HP Labs, USA
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CONFERENCE VENUE

Arizona State University: A New American University



Arizona State University (ASU) is a public research university located across the Phoenix, Arizona, Metropolitan Area. ASU is the largest public university by enrollment in the United States. Arizona State University has developed a new model for the American Research University, creating an institution that is committed to excellence, access and impact. U.S. News & World Report ranked ASU second on the list of schools that are making the most promising and innovative changes in the areas of academics, faculty and student life. ASU is a leader in student entrepreneurship, community partnerships, student support services, and is continually offering new

degrees in emerging fields. ASU measures itself by those it includes, not by those it excludes. ASU pursues research that contributes to the public good, and ASU assumes major responsibility for the economic, social and cultural vitality of the communities that surround it.

The conference will be held in the Lattie F. Coor Hall on the ASU Tempe Campus.



DIRECTIONS

ASU is only a short 10 minutes drive from the Phoenix Sky Harbor Airport and the taxi fare from the airport to ASU Tempe campus is \$15-\$20. Please find more information at: <https://skyharbor.com/transportationparking/limosAndTaxis.html>.

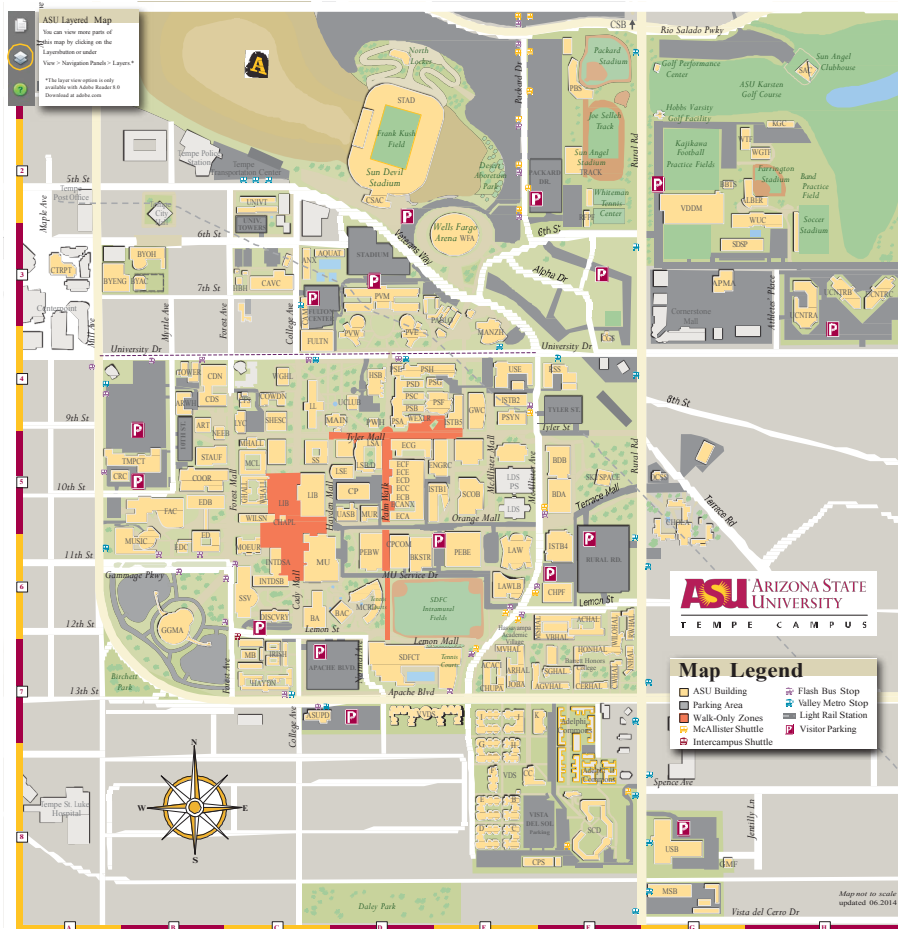
There is also a convenient light rail from the airport to downtown Tempe. Please find more information at: <https://skyharbor.com/phxperspective/lightrail.html>.

Those of you who will drive to the conference venue may find the ASU's Map and Direction page useful: <http://www.asu.edu/map/directions.html>.

Street Address:

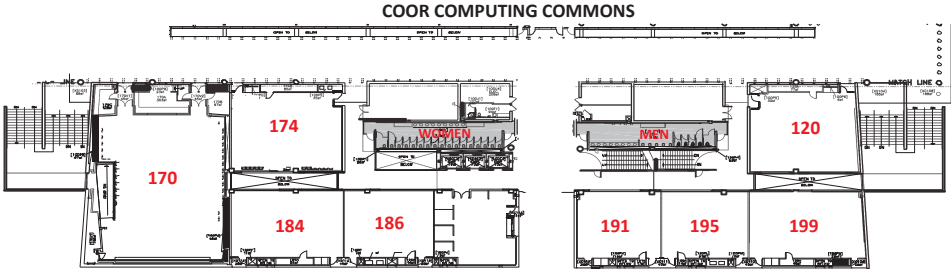
Building Code: COOR
976 S. Forest Mall
Tempe, AZ 85281

CAMPUS MAP

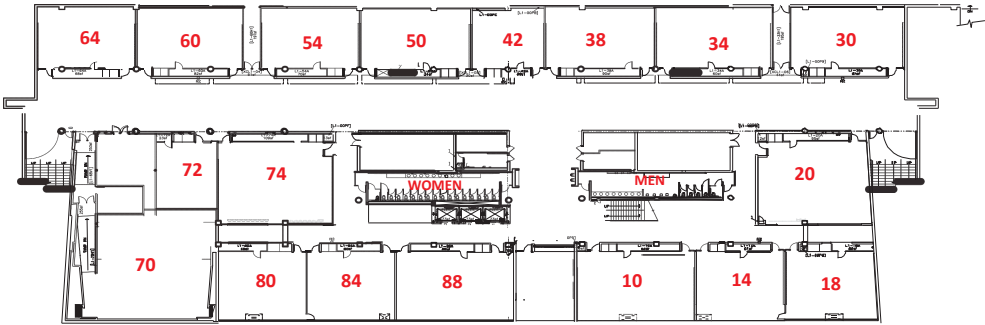


Acacia Hall	ACACI 7E	College Ave. Market	CAM 3C	Introdiscp. Sc. & Tech. 1	ISTB1 5D	Off-Camp. Stndnt. Srv.	OCSS 5G	Sun Angel Stadium	TRACK 2F
Acourin Hall	ACHAL 6F	College Ave. Commons	CAVC 3C	Introdiscp. Sc. & Tech. 2	ISTB2 4E	Old Main	MAIN 4D	Tempe Center	TMPTC 4B
Adolph Commons	ADOL 7F	Comb'd Heat & Pwr. Fac.	CHPF 4F	Introdiscp. Sc. & Tech. 4	ISTB4 6F	Orchidhouse (Brcklyd.)	BYOH 3B	The Annex	ANX 3C
Agave Hall	AGVHAL 7F	Community Serv. Bldg.	CSB 1F	Introdiscp. Sc. & Tech. 5	ISTB5 4E	Palo Verde East	PVE 3D	Tower 4B	TOW 4B
Aquatic Complex	AQUAT 3D	Computing Commons	CPCOM 6D	Irish Hall	IRISH 7C	Palo Verde Main	PVM 3D	Undergrad. Academic	UASB 5D
Armstrong Hall	LAW 6E	Coor. Hall	COOR 5B	Jejuba Hall	JBJHA 7E	Palo Verde West	PVW 3D	University Center A	UCNTA 3H
Arroyo Hall	ARHAI 7E	Cottonwood Hall	CWHAL 7F	Juniper Hall	JNHAI 7F	Payne Hall	PAY 5B	University Center B	UCNTRB 3H
Art Building	ART 4B	Cawden Fam. Reces.	COWDN 4C	Language & Literature	LL 4C	Perform. & Media Arts	PEBE 6E	University Center C	UCNTRC 3H
Art Warehouse	ARWH 4B	Danforth Chapel	CHAPL 3C	Law Library	LAWLB 6E	Physical Ed. East	PEBE 6E	University Club	UCLUB 4D
Best Hall	MB 7C	Design Annex	DSGNX 3C	Life Sciences Center	LS 5D	Physical Ed. West	PEBW 6D	University Services Bldg.	USB 8D
Business Admin.	BA 6C	Design North	CDN 4B	Life Sciences C-wing	LSC 5D	Physical Sci. Wings	PSA-H 4D	Urban Systems Engin.	USE 4E
Business Admin. C Wing	BAC 6D	Design South	CDS 4B	Life Sciences tower	LSE 5D	Piper Writers House	PWH 4D	University Towers	UNVT 2C
Biodesgn. Inst. Bldg. A	BDA 5F	Discovery Hall	DISCVRY 6C	Lycexam Theatre	LYC 4C	Police	ASUPD 7C	Verbens Hall	VBHAL 6F
Biodesgn. Inst. Bldg. B	BDB 5F	Disic Gammage Hall	GHALL 5C	Manzanita Hall	MANZHI 4E	Psychology Building	PSY 5E	Verde Dickey Dome	VDOM 6E
Bookstore	BKSTR 6D	Education Lecture Hall	EDC 6B	Mathews Center	MCENT 5C	Psychology North	PSYN 4E	Vista del Sol Camps.	VSD 8E
Brickyard Artisan Crtyrd.	BYAC 3B	Engineering Center	ECCAG 5D	Material Svc. Bldg.	MSB 8G	Rosewood Hall	RWHAL 4F	Villas @ Vista del Sol	VVDS 8E
Brickyard Engin.	BYENG 3A	Engin. Research Ctr.	ENRC 5D	Mathews Hall	MHAL 5C	Sage Hall	SGHAL 7F	Weatherup Center	WUC 3H
Campus Childr'n Cntr.	CHLD 5G	Farmer Education Bldg.	ED 6B	McIntock Hall	MCL 5C	San Pablo Hall	PABLO 3D	Wells Fargo Arena	WFA 3E
Carson Stndt Ath Cntr.	CSAC 2D	Fulton Center	FULTN 4C	McCard Hall	MCRD 4D	Schwada Building	SCOB 5E	West Hall	WHAL 5C
Centerpoint	CTRPT 3A	Gammage Auditorium	GGMA 6B	McCard Hall	MU 6C	Sck. Hs. Ex. Soc. Chg.	SHESC 4C	Wexler Hall	WEXLR 4D
Ceramics Grad. Studio	CGS 4F	Goldwater Center	GWC 4E	Menquite Hall	MSHAL 6F	Social Sciences	SS 5C	Willow Hall	WLOHAL 6F
Ceramics Research Ctr.	CRC 5B	Grounds Maint. Facility	GMP 8G	Morser Building	MOR 5D	Sonora Center	SCD 4F	Wilson Hall	WLSN 5C
Cereus Hall	CERHAL 7F	Harrington-Birchett House	HBBH 3C	Mohave Hall	MVHAL 7E	Stauffer Comm.	STAF 5B	Womens Gymst. Trag.	WGTF 2H
Center for Fam. Studies	CFS 4C	Hayden Hall	HAYDN 7C	Murdock Lecture Hall	MUR 5D	Sun Devil Fr. Camps.	SDFC 8E	Wrestling Training Fac.	WTF 2H
Central Plant	CP 5D	Hayden Library	HLB 5C	Music Building	MUSB 6B	Student Services Bldg.	SSV 6C	Wrigley Hall	WRGH 4C
Central Plant South	CPS 8F	Health Service	HSB 4D	Neeb Hall	NEEB 5B	Sun Devil Sports Perf.	SAC 3H		
Cholla Apartments	CHOLA 5G	Honors Hall	HONHAL 7F	Nelson Fine Arts Center	FAC 5B	Sun Devil Stadium	SIDP 3H		
Chuparosa Hall	CHUPA 7E	Interdisciplin. A/B	INTSAB 6C	Noble Sci. Library	NOBLE 5E		STAD 2D		

COOR HALL UPPER LEVEL (Level 1)



COOR HALL LOWER LEVEL (Level LL)



CONFERENCE PROGRAM

Monday, March 9th, 2015	
(breakfast 8:15am; breaks at 10:00-10:15am, 12:00-1:00pm, 2:30-2:45pm, and 4:15-4:30pm)	
9:00 - 12:00	Tutorial 1: <i>The Social Internet of Things</i> (L1-120) Antonio Iera (Uni Reggio Calabria, Italy), Giacomo Morabito (Uni Catania, Italy), Luigi Atzori (Uni Sassari, Italy)
9:00 - 12:00	<i>Doctoral Symposium</i> (LL-18)
1:00 - 4:00	Tutorial 2: <i>Apache Storm a Hands on Tutorial</i> (L1-120) Bobby Evans (Yahoo, USA)
1:00 - 4:00	Tutorial 3: <i>An Introduction to Cloud Benchmarking</i> (LL-20) David Bermbach (TU Berlin, Germany)
9:00 - 6:00	<i>IEEE International Workshop on the Future of PaaS</i> (LL-10)
9:00 - 6:00	<i>IEEE International Workshop on Software Defined Systems</i> (LL-88)
9:00 - 6:00	<i>IEEE Int. Workshop on Container Technologies and Container Clouds</i> (L1-195)
7:00 - 9:00	Conference Reception & Doctoral Symposium Posters (Tempe Mission Palms / Terrace Patio)

Tuesday, March 10th, 2015	
(breakfast 8:00am; breaks at 10:00-10:30am, 12:00-1:00pm, 2:15-2:30pm, and 4:30-4:45pm)	
8:30 - 8:45	Welcome/Opening (L1-170) K. Selcuk Candan and Kyung D. Ryu
8:45 - 10:00	Research Track Keynote (L1-170) <i>"Connected Smart Buildings": A new way to interact with buildings</i> Youngchoon Park, Technical Fellow and Director of Technologies, Johnson Controls Chair: Geoffrey Fox
10:00 - 10:30	Break
10:30 - 12:00	Research Track I: Optimization (L1-170) Chair: Jean Bacon <hr/> <ul style="list-style-type: none"> • <i>Graph Aware Caching Policy For Distributed Graph Stores</i>. Hidayet Aksu, Mustafa Canim, Yuan-Chi Chang, Ibrahim Korpeoglu and Ozgür Ulusoy. • <i>SmartCache: An Optimized MapReduce Implementation of Frequent Itemset Mining</i>. Dachuan Huang, Yang Song, Ramani Routray and Feng Qin.

	<ul style="list-style-type: none"> • <i>Cloud-Based, User-Centric Mobile Application Optimization</i>. John Kolb, Prashant Chaudhary, Alexander Schillinger, Abhishek Chandra and Jon Weissman.
12:00 - 1:00	LUNCH
1:00 - 2:15	<p>Short Papers I: Cloud Engineering (L1-170) Chair: Dennis Gannon</p> <hr/> <ul style="list-style-type: none"> • <i>REST+T: Scalable Transactions over HTTP</i>. Akon Dey, Alan Fekete and Uwe Röhm. • <i>Approving Updates in Collaborative Databases</i>. Khaleel Mershad, Qutaibah Malluhi, Mourad Ouzzani, Mingjie Tang, Walid G. Aref. • <i>Using OpenStack for an Open Cloud eXchange (OCX)</i>. Peter Desnoyers, Jason Hennessey, Brent Holden, Orran Krieger, Larry Rudolph, Adam Young. • <i>Integrating Messaging Middleware and Information Flow Control</i>. Jatinder Singh, Thomas Pasquier, Jean Bacon and David Eyers. • <i>Automated Capturing and Systematic Usage of DevOps Knowledge for Cloud Applications</i>. Johannes Wettinger, Vasilios Andrikopoulos and Frank Leymann.
2:15 - 2:30	Break
2:30 - 4:30	<p>Industrial Track (L1-170) Chair: Indranil Gupta</p> <hr/> <ul style="list-style-type: none"> • <i>Cloud Desktop Workload: a Characterization Study</i>. Emiliano Casalicchio, Stefano Iannucci and Luca Silvestri. • <i>Leveraging Linux Containers to Achieve High Availability for Cloud Service</i>. Wubin Li, Ali Kanso and Abdelouahed Gherbi. • <i>Polyglot Application Auto Scaling Service for Platform As A Service Cloud</i>. Seetharami Seelam, Paolo Dettori, Westerink Peter and Ben Bo Yang. • Invited Practitioners Talk I - <i>Cloud Storage Infrastructure Optimization Analytics</i>. Ramani Routray (IBM Research) • Invited Practitioners Talk II - <i>In-Memory Computing for Scalable Data Analytics</i>. Jun Li (HP Labs)
4:30 - 4:45	Break
4:45 - 6:15	<p>Panel I: Cloud Sustainability (L1-170) Moderator: H.J. Siegel (Colorado State University)</p> <hr/> <p>Panelists:</p> <ul style="list-style-type: none"> • Ali R. Butt, Virginia Tech • Abhishek Chandra, University of Minnesota • Schahram Dustdar, Vienna University of Technology • Chandra Krintz, University of California, Santa Barbara

Wednesday, March 11th, 2015	
(breakfast 8:00am; breaks at 10:00-10:30am, 12:00-1:00pm, 3:00-3:15pm, and 4:45-5:00pm)	
8:30- 10:00	<p>Research Track II: Cloud (L1-170) Chair: Jun Tatemura</p> <hr/> <ul style="list-style-type: none"> • <i>StratusML: A Layered Cloud Modeling Framework.</i> Mohammad Hamdaqa and Ladan Tahvildari. • <i>Kangaroo: A Tenant-Centric Software-Defined Cloud Infrastructure.</i> Kaveh Razavi, Ana Ion, Genc Tato, Kyuho Jeong, Renato Figueiredo, Guillaume Pierre and Thilo Kielmann. • <i>Understanding Real World Data Corruptions in Cloud Systems.</i> Peipei Wang, Daniel Dean and Xiaohui Gu.
10:00 - 10:30	Break
10:30 - 12:00	<p>Research Track III: Applications (L1-170) Chair: Renato Figueiredo</p> <hr/> <ul style="list-style-type: none"> • <i>An Automated Parallel Approach for Rapid Deployment of Composite Application Servers.</i> Yasuharu Katsuno and Hitomi Takahashi. • <i>Transforming Vertical Web Applications Into Elastic Cloud Applications.</i> Nikola Tankovic, Tihana Galinac Grbac, Hong-Linh Truong and Schahram Dustdar. • <i>FlexTuner: A Flexible Container-based Tuning System for Cloud Applications.</i> Yongen Yu, Hongbo Zou, Wei Tang, Liwei Liu, and Fei Teng.
12:00 - 1:00	LUNCH
1:00 - 3:00	<p>Research Track IV: Security (L1-170) Chair: David Eyers</p> <hr/> <ul style="list-style-type: none"> • <i>Efficient Retrieval of Key Material for Inspecting Potentially Malicious Traffic in the Cloud.</i> John Saxon, Behzad Bordbar and Keith Harrison. • <i>Substring Position Search over Encrypted Cloud Data using Tree-based Index.</i> Mikhail Strizhov and Indrajit Ray. • <i>Verifiable Delegated Set Intersection Operations on Outsourced Encrypted Data.</i> Qingji Zheng and Shouhuai Xu. • <i>Scalable Attestation: A Step Toward Secure and Trusted Clouds.</i> Stefan Berger, Kenneth Goldman, Dimitrios Pendarakis, David Safford, Enriquillo Valdez and Mimi Zohar.
3:00 - 3:15	Break
3:15 - 4:45	<p>Short Papers II: Modeling and Simulation (L1-170) Chair: Mohamed Sarwat</p> <hr/> <ul style="list-style-type: none"> • <i>Architecture for High Confidence Cloud Security Monitoring.</i> Teemu Kanstrén, Sami Lehtonen, Hilikka Kukkohovi, Reijo Savola and Kimmo Hätönen.

	<ul style="list-style-type: none"> • <i>I/O Performance Modeling for Big Data Applications over Cloud Infrastructures.</i> Ioannis Mytilinis, Dimitrios Tsoumakos, Verena Kantere, Anastassios Nanos and Nectarios Koziris. • <i>Scalable Metering for an Affordable IT Cloud Service Management.</i> Ali Anwar, Anca Sailer, Andrzej Kochut, Charles O. Schulz, Alla Segal and Ali R. Butt. • <i>PANIC: Modeling Application Performance over Virtualized Resources.</i> Ioannis Giannakopoulos, Dimitrios Tsoumakos, Nikolaos Papailiou and Nectarios Koziris. • <i>Understanding the Linguistic Characteristics of Network Signaling for the "Internet of Things" Using n-Grams.</i> Stephen P. Emmons and Farhad Kamangar. • <i>Harp: Collective Communication on Hadoop.</i> Bingjing Zhang, Yang Ruan and Judy Qiu.
4:45 - 5:00	Break
5:00 - 6:15	<p>Panel II: Cloud and Internet-of-Things (L1-170) Moderator: Geoffrey Fox</p> <hr/> <p>Panelists:</p> <ul style="list-style-type: none"> • Bobby Evans, Yahoo, USA • Antonio Iera, Uni. Reggio Calabria, Italy • Youngchoon Park, Johnson Controls, Inc., USA • Judy Qiu, Indiana University, USA
7:30 - 9:30	Conference Banquet (ASU Old Main / Carson Ballroom)
Thursday, March 12th, 2015	
(breakfast 8:00am; breaks at 9:45-10:00am, 12:00-1:00pm, 2:30-2:45pm, and 4:15-4:30pm)	
8:30 - 9:45	<p style="text-align: center;">Industry Track Keynote (L1-170) <i>Cloud Storage Services: A Model of (In)Consistency</i> Douglas Terry, Distinguished Research Engineer at Samsung Research America Chair: Partha Kanuparth</p>
9:45 - 10:00	Break
10:00 - 12:00	<p>Research Track V: Provisioning and Scheduling (L1-170) Chair: Ken Moody</p> <hr/> <ul style="list-style-type: none"> • <i>Cross-Layer Scheduling in Cloud Systems.</i> Hilfi Alkaff and Indranil Gupta. • <i>Resource Defragmentation using Market-Driven Allocation in Virtual Desktop Clouds.</i> Prasad Calyam, Sripriya Seetharam, Baisravan Homchaudhuri and Manish Kumar. • <i>Using Trustworthy Simulation to Engineer Cloud Schedulers.</i> Alexander Pucher, Emre Gul, Rich Wolski and Chandra Krintz. • <i>A Multi-Resource Sharing-Aware Approximation Algorithm for Virtual Machine Maximization.</i> Safraz Rampersaud and Daniel Grosu.

12:00 - 1:00	LUNCH
1:00 - 4:00	Tutorial 4: <i>MobiSocial (Mobile and Social) Data Management</i> (L1-120) Mohamed Sarwat (Arizona State University, USA), Mohamed F. Mokbel (University of Minnesota, USA)
1:00 - 6:00	<i>IEEE International Workshop on Legal and Technical Issues in Cloud Computing</i> (L1-195)
1:00 - 6:00	<i>IEEE International Workshop on Cloud Analytics</i> (LL-10)
1:00 - 6:00	<i>IEEE International Workshop on Cloud Computing Interclouds, Multiclouds, Federations, and Interoperability</i> (LL-18)

KEYNOTES

IC2E Research Keynote: “Internet of Buildings (tm)”, A New Way to Interact with Buildings Youngchoon Park (Technical Fellow and Director of Technologies, Johnson Controls, Inc.)

Devices, people, information and software applications rarely live in isolation in modern building management. For example, networked sensors that monitor the performance of a chiller are common and collected data are delivered to building automation systems to optimize energy use. Detected possible failures are also handed to facility management staffs for repairs. Physical and cyber security services have to be incorporated to prevent improper access of not only HVAC (Heating, Ventilation, Air Conditioning) equipment but also control devices. Harmonizing these connected sensors, control devices, equipment and people is a key to provide more comfortable, safe and sustainable buildings. Nowadays, devices with embedded intelligences and communication capabilities can interact with people directly. Traditionally, few selected people (e.g., facility managers in building industry) have access and program the device with fixed operating schedule while a device has a very limited connectivity to an operating environment and context. Modern connected devices will learn and interact with users and other connected things. This would be a fundamental shift in ways in communication from unidirectional to bi-directional. A manufacturer will learn how their products and features are being accessed and utilized. An end user or a device on behalf of a user can interact and communicate with a service provider or a manufacturer without go through a distributor, almost real time basis. This will requires different business strategies and product development behaviors to serve connected customers’ demands. Connected things produce enormous amount of data that result many questions and technical challenges in data management, analysis and associated services. In this talk, we will brief some of challenges that we have encountered in developing connected building solutions and services. More specifically, (1) semantic interoperability requirements among smart sensors, actuators, lighting, security and control and business applications, (2) engineering challenges in managing massively large time sensitive multi-media data in a cloud at global scale, and (3) security and privacy concerns are presented.



Youngchoon Park is a technical fellow and director of technologies in Johnson Controls, Inc. Currently; he is building data products and associated services and develops technology strategy. He has built few building management products and solutions and involved in many real-life complex building automation and security system developments and deployments. Dr. Park's major research interests are information management, data analytics, distributed multimedia computing, content-based information processing, and enterprise application integration. He is a frequent contributor of articles in his area of interests and actively participate many international conferences, standard organizations. He is a member of IEEE, and ACM and holds a Ph.D and a M.S from Arizona State University in Computer Science.

IC2E Industrial Keynote: Cloud Storage Services: A Model of (In)Consistency Douglas Terry (Distinguished Research Engineer at Samsung Research America)

Cloud storage systems invariably replicate data for high availability and low latency access. Application designers, as well as cloud providers, must deal with trade-offs between consistency, performance, and availability. Some cloud services provide strong data consistency to their clients while others have chosen eventual consistency. Increasingly, systems are offering a choice of consistency when reading shared data. This talk examines the implications of such a choice and explores a broader class of consistency guarantees that can, and perhaps should, be provided within the cloud.



Doug Terry recently joined Samsung Research America as a Distinguished Research Engineer with the mission of building a world-class systems research team focused on mobile and cloud services. Previously, Doug was a Principal Researcher in the Microsoft Research Silicon Valley lab, the co-founder and CTO of a start-up company named Cogenia, Chief Scientist of the Computer Science Laboratory at Xerox PARC, where he helped pioneer the notion of ubiquitous computing and led a number of research projects on weakly consistent distributed systems, and an Adjunct Professor in the Computer Science Division at U. C. Berkeley, where he still occasionally teaches a graduate course on distributed systems. He has published papers on a variety of topics including epidemic algorithms, collaborative filtering, continuous queries, active documents, the Etherphone system, and the Bayou replicated database, and he published a recent Synthesis Lecture on "Replicated Data Management for Mobile Computing." Doug has a Ph.D. in Computer Science from U. C. Berkeley. He is an ACM Fellow, past chair of ACM's Special Interest Group on Operating Systems (SIGOPS), and the author of ACM's Tech Pack on Cloud Computing.

TUTORIALS

Tutorial 1: The Social Internet of Things

Antonio Iera (Uni Reggio Calabria, Italy), Giacomo Morabito (Uni Catania, Italy), Luigi Atzori (Uni Sassari, Italy)

All market and technology studies forecast an explosive growth in the number of “things” which will be connected to the Internet. The resulting network is what is commonly known as the “Internet of Things” (IoT). The IoT poses completely new challenges when compared to the traditional Internet which cannot be faced if the involved objects are just traditional “smart” objects. In fact, the extremely high complexity (huge number of nodes, extreme heterogeneity of their resources and capabilities, uncertainty on their trustworthiness, etc.) of the IoT environment cannot be faced by even very smart objects singularly. Social behavior is the answer found by several creatures to face the complexity of the surrounding environment. Accordingly, recently the concept of Social Internet of Things (SIoT) has been introduced and is the subject of a rapidly increasing research effort. In this tutorial we will motivate the SIoT introduction, we will provide the basic relevant concepts, will survey the existing literature, and will describe a specific solution in details providing some exemplary applications.



Prof. Antonio Iera, Ph.D. graduated in Computer Engineering at the University of Calabria, Italy, in 1991 and received a Master Diploma in Information Technology from CEFRIEL/Politecnico di Milano, Italy, in 1992 and a Ph.D. degree from the University of Calabria, Italy, in 1996. From 1994 to 1995 he has been with the Mobile Network Division Research Center, Siemens AG – Munich, Germany and since 1997 with the University Mediterranea, Reggio Calabria, where he currently holds the positions of full professor of Telecommunications and Director of the ARTS - Laboratory for Advanced Research into Telecommunication Systems. He served as TPC member of several IEEE International Conferences and has been co-Guest Editor for different special issues in the IEEE Wireless Communications Magazine. Elevated to the IEEE Senior Member status in 2007. His research interests include: Next generation mobile systems, Advanced Systems for Personal Communications, RFID systems and Internet of Things.



Prof. Giacomo Morabito, Ph.D. received the laurea degree in Electrical Engineering and the PhD in Electrical, Computer and Telecommunications Engineering from the Istituto di Informatica e Telecomunicazioni, University of Catania, Catania (Italy), in 1996 and 2000, respectively. From November 1999 to April 2001, he was with the Broadband and Wireless Networking Laboratory of the Georgia Institute of Technology as a Research Engineer. Since April 2001 he is with the Dipartimento di Ingegneria Informatica e delle Telecomunicazioni of the University of Catania where he is currently Associate Professor. He serves (or has served) in the Editorial Boards of Wireless Networks, Computer Networks and IEEE Wireless Communications. Furthermore, he has been editor or co-guest editor of special issues of IEEE Transactions on Multimedia, IEEE Wireless Communication Magazine, Computer Networks and MONET. His research interests focus on analysis and solutions for broadband and wireless networks.



Prof. Luigi Atzori, Ph.D. is associate professor at the University of Cagliari (Italy). His main research topics of interest are in service management in next generation networks, with particular attention to architectural solutions for the Internet of Things, QoS, service-oriented networking, bandwidth management and multimedia networking. He has published more than 100 journal articles and refereed conference papers. Dr. Atzori has received the Telecom Italia award for an outstanding MSc thesis in Telecommunication and has been awarded a Fulbright Scholarship (11/2003-05/2004) to work on video streaming at the Department of Electrical and Computer Engineering, University of Arizona. He is senior member of IEEE, steering committee chair of the IEEE Multimedia Communications Committee (MMTC). He has been the editor for the ACM/Springer Wireless Networks Journal and guest editor for the IEEE Communications Magazine, Monet and Signal Processing: Image Communications journals. He is currently editor of the IEEE IoT Journal, Ad Hoc Networks Journal and Advances on Multimedia.

Tutorial 2: A Hands on Apache Storm Tutorial: for Beginners to Advanced Users

Bobby Evans (Yahoo, USA)

Apache Storm is a popular low latency distributed stream processing framework. Apache Storm is used everywhere at Yahoo and at many other companies from automatically tagging every image uploaded to Flickr and analyzing trending search queries to monitoring production servers looking for problems. This hands on tutorial is divided into two parts. The

first part covers the basics of Storm, its architecture, and walks you through writing a simple application (not just word count). The second part looks more at how to modify Storm and will walk you through adding in a new feature to storm.



Bobby Evans is the low latency data processing architect at Yahoo. He is a project management committee member on many big data Apache projects including Storm, Hadoop, Spark, and Tez. His team is responsible for delivering hosted Storm and Spark services to Yahoo.

Tutorial 3: An Introduction to Cloud Benchmarking

David Bermbach (TU Berlin, Germany)

Over the last few years, more and more Cloud Computing offerings have emerged ranging from compute, data storage, and middleware services over platform environments up to ready-to-use applications. Choosing the best offering for a particular use case, is a complex task which involves comparison and trade-off analysis of functional and non-functional service properties; for non-functional quality of service (QoS) properties, this is typically done via benchmarking. Today, a plethora of benchmarking solutions exist for different layers in the cloud stack (IaaS, PaaS, SaaS) which typically address a single QoS dimension – a holistic cloud benchmark even for a single layer in the cloud stack is still missing. In this tutorial, we will give an overview of existing cloud benchmarking solutions and point-out ways in which these different benchmarks could be used in concert to actually compare clouds as a whole (i.e., for instance Amazon cloud vs. Google cloud) instead of analyzing isolated QoS dimensions of single cloud services.



David Bermbach is a senior researcher within the Information Systems Engineering research group at TU Berlin in Berlin, Germany. At TU Berlin, he is working on novel cloud benchmarking solutions, building on his strong expertise in the area of consistency benchmarking for cloud datastores. Prior to his current position, he worked as a researcher at KIT and as a lecturer at DHBW both in Karlsruhe, Germany. David has a Diploma in business engineering (2010) and a Ph.D. with distinction in computer science (2014) both from KIT. He received a best paper runner up award at IC2E 2014 and a best paper award at the 2nd International Conference on Cloud Computing, GRIDs, and Virtualization.

Tutorial 4: MobiSocial (Mobile and Social) Data Management

Mohamed Sarwat (Arizona State Uni, USA), Mohamed F. Mokbel (Uni of Minnesota, USA)

The rise of the Social Internet, in the past decade, stimulated the invention of human-centered technologies that study and serve humans as individuals and in groups. For instance, social networking services provide ways for individuals to connect and interact with their friends. Also, personalized recommender systems leverage the collaborative social intelligence of all users' opinions to recommend: books, news, movies, or products in general. These social technologies have been enhancing the quality of Internet services and enriching the end-user experience. Furthermore, the Mobile Internet allows hundreds of millions of users to frequently use their mobile devices to access their healthcare information and bank accounts, interact with friends, buy stuff online, search interesting places to visit on-the-go, ask for driving directions, and more. In consequence, everything we do on the MobiSocial Internet leaves breadcrumbs of digital traces that, when managed and analyzed well, could definitely be leveraged to improve life. Services that leverage Mobile and/or Social data have become killer applications in the cloud. Nonetheless, a major challenge that Cloud Service providers face is how to manage (store, index, query) MobiSocial data hosted in the cloud. Unfortunately, classic data management systems are not well adapted to handle data-intensive MobiSocial applications. The tutorial surveys state-of-the-art MobiSocial data management systems and research prototypes from the following perspectives: (1) Geo-tagged Microblog search, location-aware and mobile social news feed queries, and GeoSocial Graph search, (2) Mobile Recommendation Services, and (3) Geo-Crowdsourcing. We finally highlight the risks and threats (e.g., privacy) that result from combining mobility and social networking. We conclude the tutorial by summarizing and presenting open research directions.



Mohamed Sarwat is an Assistant Professor of Computer Science at Arizona State University. Before joining ASU in August 2014, Mohamed obtained his MSc and PhD degrees in computer science from University of Minnesota in 2011 and 2014, respectively. His research interest lies in the broad area of data management systems. Mohamed is a recipient of the University of Minnesota Doctoral Dissertation Fellowship. His research work has been recognized by the "Best Research Paper Award" in the International Symposium on Spatial and Temporal Databases (SSTD 2011) and a "Best of Conference" citation in the IEEE International Conference on Data Engineering (ICDE 2012).



Mohamed F. Mokbel (Ph.D., Purdue University, MS, B.Sc., Alexandria University) is an associate professor in the Department of Computer Science and Engineering, University of Minnesota. His current research interests focus on providing database and platform support for spatio-temporal data, location based services 2.0, personalization, and recommender systems. His research work has been recognized by four best paper awards at IEEE MASS 2008, IEEE MDM 2009, SSTD 2011, and ACM MobiGIS Workshop 2012, and by the NSF CAREER award 2010. Mohamed is/was general co-chair of SSTD 2011, program co-chair of ACM SIGSPATIAL GIS 2008-2010, and MDM 2014, 2011. He has served in the editorial board of IEEE Data Engineering Bulletin, Distributed and Parallel Databases Journal, and Journal of Spatial Information Science. Mohamed is an ACM and IEEE member and a founding member of ACM SIGSPATIAL.

PANELS

Panel 1: Cloud Sustainability

Organizers:

H.J. Siegel (Colorado State University, USA); Manish Parashar (Rutgers University, USA)

The dominance of the Cloud paradigm and the proliferation of Cloud services are resulting in increasing scales of Cloud hosting infrastructures and associated complexities that are making their sustainability a growing concern. Cloud data centers are growing in size to millions of nodes. Furthermore, Clouds are being used to support mission critical support for many industries. Finally, the environmental impact of Cloud datacenters is becoming an increasing concern. How can this mass migration to Clouds best be sustained?

This panel will explore issues and challenges related to the sustainability of very large-scale cloud infrastructures from multiple perspectives, including:

- Energy and environmental impact,
- Resilience and quality of service that can meet needs and expectations of the growing user base, in spite of increasing scales and complexities of the system.

How can future large-scale Clouds meet energy constraints, be environmentally responsible, and operate in a way that can provide a dependable infrastructure? What is needed in terms of hardware, software, policies, user consulting support, system configuration information available to users, and regulatory mechanisms? How much of the responsibility for the success of the Cloud paradigm should users have versus the Cloud providers?

Panel Moderator:

- *H.J. Siegel, Colorado State University, USA*

Panelists:

- *Ali R. Butt, Virginia Tech, USA*
- *Abhishek Chandra, University of Minnesota, USA*
- *Schahram Dustdar, Vienna University of Technology, USA*
- *Chandra Krantz, University of California, Santa Barbara, USA*

Panel 2: Cloud and Internet of Things

Organizer: Geoffrey Fox (Indiana University, USA)

The Internet of Things broadly interpreted covers everything from monitoring sensors, smartphones that today have ~10 "things" each, robots and surveillance systems. The smartphones capture both the Internet access for social media sites with 1.8 billion photos uploaded every day and the content of tweets and Facebook posts that are being analyzed to capture in real-time the sentiment and thoughts of people. There are many estimates for the potential size of the IoT with at least 20 Billion devices expected by 2020. As well as the consumer IoT there is also the Industrial Internet of Things IIoT delivering intelligent machines and revolutionary industrial systems (e.g. manufacturing and transportation) of every type. The Cloud is often viewed as the natural controller for IoT devices and new software models ("Map-Streaming") like Apache Storm are emerging. The panel will take a broad look at the future of IoT covering devices and their cloud support.

Panel Moderator:

- *Geoffrey Fox, Indiana University, USA*

Panelists:

- *Bobby Evans, Yahoo, USA*
- *Antonio Iera, Uni. Reggio Calabria, Italy*
- *Youngchoon Park, Johnson Controls, Inc., USA*
- *Judy Qiu, Indiana University, USA*

TRAVEL AWARDS

- Hassan Adelyar (Talinn University, Estonia)
- Mohammad Hamdaqa (University of Waterloo, Canada)
- Parth Nagarkar (Arizona State University, USA)
- Karima Qayumi (Talinn University, Estonia)
- Safraz Rampersaud (Wayne State University, USA)
- Mikhail Strizhov (Colorado State University, USA)

VOLUNTEERS

- Abdullah Alshalan (Arizona State University, USA)
- Nishant Bansal (Arizona State University, USA)
- Marco Berchiatti (University of Torino, Italy)
- Aneesha Bhat (Arizona State University, USA)
- Ankur Chowdhary (Arizona State University, USA)
- Yuli Deng (Arizona State University, USA)
- Sathvik Erukulla (Arizona State University, USA)
- Yash Garg (Arizona State University, USA)
- Jung Hyun Kim (Arizona State University, USA)
- Nishant Kumar (Arizona State University, USA)
- Bing Li (Arizona State University, USA)
- Xinsheng Li (Arizona State University, USA)
- Sicong Liu (Arizona State University, USA)
- Girish Marthala (Arizona State University, USA)
- Parth Nagarkar (Arizona State University, USA)
- Raja Panidepu (Arizona State University, USA)
- Nitin Pasumarthy (Arizona State University, USA)
- Sandeep Pisharody (Arizona State University, USA)
- Silvestro Poccia (Arizona State University, USA)
- Adam Tse (Arizona State University, USA)
- Prerna Satija (Arizona State University, USA)
- Venkata Valiveti (Arizona State University, USA)
- Zhijie Wang (Arizona State University, USA)

CO-LOCATED WORKSHOPS

IC2E Ph.D. Symposium

March 9, 2015

Location: LL-18

The symposium brings together Ph.D. students working on topics related to the IC2E conference. The workshop offers Ph.D. students the opportunity to present, discuss, and receive feedback on their research in a constructive and international atmosphere. The workshop is accompanied by prominent professors, researchers and practitioners in the fields of database technology. These accompanying professors participate actively and contribute to the discussions.

- Sharing-Aware Resource Management Algorithms for Virtual Computing Environments; Safraz Rampersaud (Wayne State University, USA)
- Towards a Practical and Efficient Search over Encrypted Data in the Cloud; Mikhail Strizhov (Colorado State University, USA)
- Compressed Hierarchical Bitmap Indexes for Efficiently Processing Query Workloads; Parth Nagarkar (Arizona State University, USA)
- Towards Secure Agile Agent-Oriented System Design; Hassan Adelyar (Talinn University, Estonia)
- A Modeling Framework for Cloud Applications; Mohammad Hamdaqa (University of Waterloo, Canada)
- Multi-Agent Based Intelligence Generation from Very Large Datasets; Karima Qayumi (Talinn University, Estonia)

IEEE International Workshop on the Future of PaaS 2015

http://maximilien.github.io/ic2e_future_of_paas/

March 9, 2015

Location: LL-10

In this workshop, we have gathered a program committee of mostly industry leaders in the PaaS space, as well as seasoned academic leaders in middleware and systems and cloud research to create a program that will try to explore the current avenues, dead ends, and boulevard, that make the future of PaaS.

2nd IEEE International Workshop on Software Defined Systems (SDS 2015)

http://www.staffs.ac.uk/personal/engineering_and_technology/eb26/SDS-2015/default.php

March 9, 2015

Location: LL-88

Next generation cloud systems will require a paradigm shift in how they are constructed and managed. Conventional control and management platforms are facing considerable challenges regarding flexibility, dependability and security that next generation systems will require. SDS'2015 will be a forum for scientists, researchers, students, and practitioners to present their latest research results, ideas, and developments in the area of software defined systems – both components and their integration - and by implication advancement of next generation clouds.

IEEE International Workshop on Container Technologies and Container Clouds (WoC 2015)

http://researcher.watson.ibm.com/researcher/view_group.php?id=5742

March 9, 2015

Location: L1-195

Lightweight Operating System Containers like Docker are creating storms in the Cloud. They are likely to transform the computing industry as we know in the next few years. This first workshop on container technology and container cloud invites papers and demo's on fundamentals of containers, their use in

various commercial and scientific fields, and on the container deployment and orchestration technologies to enable container cloud platforms. We solicit papers from academia, industry partners and practitioners to join the discuss on containers and to bring their ideas to bridge the gap between containers and what it would take to make them the engines of next generation cloud computing.

4th IEEE International Workshop on Cloud Computing Interclouds, Multiclouds, Federations, and Interoperability (Intercloud 2015)

<http://www.intercloudtestbed.org/intercloud2015.html>

March 12, 2015

Location: LL-18

It is widely believed that the whole space of Clouds, Grids, and the Intercloud will federate and eventually converge. Looking even further backwards, there are lessons to be learned from the early Internet work as well as Mobile Telephony. Looking forwards, Cloud Federation Management as well as SDN are both key to making this happen. This workshop aims at providing a forum to bring together researchers for sharing and exchanging Cloud computing related research, technologies, experience, and lessons for building Clouds with Intercloud, Multicloud, Federation, and Interoperability capabilities, standards, services, and management techniques.

IEEE International Workshop on Legal and Technical Issues in Cloud Computing (Claw 2015)

<http://www.claw-workshop.org>

March 12, 2015

Location: L1-195

While cloud computing has been a revolution in IT provisioning, concerns of interaction with law and policy are now gaining prominence. Recent discussion has concerned issues of locality, including where data physically resides and/or is processed (regional clouds), and the services/information available within a locale (such as the "right to be forgotten"). Further, despite the surge toward the cloud in many commercial contexts, some sectors are hesitant in adopting cloud services due to a mismatch between the legal environment and the technology. Such issues will adversely impact new directions such as the green cloud or incorporating the Internet of Things (IoT) through "Fog". This workshop brings together legal and technical practitioners to explore technical solutions to legal problems, and to provide a legal framework for new emerging patterns in cloud computing.

2nd IEEE International Workshop on on Cloud Analytics (IWCA 2015)

<https://cloudlab.seas.gwu.edu/iwca15>

March 12, 2015

Location: LL-10

By gathering insights from the large amount of data from the cloud, both cloud providers and consumers can develop analytical approaches to achieving their respective objectives in spite of the scale that clouds provide. The purpose of this workshop is to provide a forum for researchers with expertise ranging from modeling to systems architecture to exchange ideas, and share their experiences in developing analytics to better deploy, operate and use the cloud. Specifically, we wish to foster research contributions that draw on statistical analysis, analytical modeling, and machine learning to develop novel solutions applicable to management in cloud data centers.

SOCIAL EVENTS

MONDAY	<p style="color: #C85130;">IC2E Reception & Doctoral Symposium Posters</p> <p style="color: #008080;">Monday, March 9, 19:00-21:00</p> <p style="color: #008080;">Tempe Mission Palms / Terrace Patio</p> <p style="text-align: center;"><i>Address: 60 E 5th St, Tempe, AZ 85281</i> <i>Phone:(480) 894-1400</i></p> <div style="text-align: center;">  </div>	
WEDNESDAY	<p style="color: #C85130;">Conference Banquet</p> <p style="color: #008080;">Wednesday, March 11, 19:30-21:30</p> <p style="color: #008080;">ASU Old Main / Carson Ballroom</p> <p style="text-align: center;"><i>Address: 400 E Tyler Mall, Arizona State University, Tempe, AZ 85281</i> <i>Phone: (480) 965-2586</i></p> <p>Constructed before Arizona achieved statehood, Old Main represents a rich tradition for Arizona State University and the state. Old Main has been refurbished to period standards, and is listed on the National Register of Historic Places. It is now home to the ASU Alumni Association. Originally dedicated February 4, 1898, it was the first building in Tempe wired for electric lighting. President Teddy Roosevelt dedicated the Roosevelt Dam from the front stairway in 1911. Murals by Joseph M. Henninger, entitled "Spanish Influence in Arizona" and "Industrial Development in Arizona," are now displayed in Old Main. Both 1930s murals were originally commissioned for Matthews Library as part of a Franklin D. Roosevelt New Deal art project.</p>	
		

LOCAL INFORMATION



Points of Interest in the Phoenix Metropolitan Area

- **Desert Botanical Garden.** For more than 70 years, the Desert Botanical Garden has been teaching and inspiring visitors from the local community and around the world, providing research, exhibits and more designed to help us understand, protect and preserve the desert's natural beauty. Today, the garden features 50,000+ plant displays showcased in beautiful outdoor exhibits. With approximately fifty acres under cultivation, something is always blooming at the Desert Botanical Garden.
- **Phoenix Zoo.** Voted one of the nation's top 5 zoos for kids, the Phoenix Zoo is home to more than 1,300 animals including 200 endangered species and participates in 37 Species Survival Plans (SSPs) to breed and maintain endangered species populations in captivity.
- **Phoenix Symphony.** Based in Phoenix Symphony Hall (opened in 1972, renovated in 2005, and seating 2,312), the 76-member ensemble is Arizona's only full-time, professional orchestra. The orchestra offers 275 concerts and presentations in an annual season running from September to May.
- **Arizona Science Center.** Arizona Science Center offers educational fun for the whole family, from pre-K to gray! From family-friendly presentations to hands-on gallery programs, get your hands on science!
- **Arizona Diamondbacks.** In their first five seasons, the Diamondbacks won three division titles, a National League pennant, and a World Series championship in 2001. You can check them out at the Chase Field located in downtown Phoenix.
- **Heard Museum.** The Heard Museum actively collects American Indian fine art, and a variety of paintings, drawings, prints, photography and sculpture can be found throughout the museum's galleries and grounds. Dedicated to the sensitive and accurate portrayal of Native arts and cultures, the Heard is an institution that successfully combines the stories of American Indian people from a personal perspective with the beauty of art. Partnerships with American Indian artists and tribal communities provide visitors with a distinctive perspective about the art and cultures of Native people, especially those from the Southwest.

- **Taliesin West Frank.** Lloyd Wright began building this desert masterpiece in 1937 as his personal winter home, studio, and architectural campus. Located on the beautiful Sonoran desert in the foothills of the McDowell Mountains in northeast Scottsdale, the site offers a broad range of guided public tours. Visitors experience firsthand Wright's brilliant ability to integrate indoor and outdoor spaces.
- **Lost Dutchman State Park.** Superstition Mountain and the Dutchman's Lost Mine are synonymous with Arizona lost mine lore. Lost Dutchman State Park is home to the Lost Dutchman Museum and the Goldfield Ghost Town.
- **Arcosanti.** An experimental town in the desert of Arizona, built to embody Paolo Soleri's concept of arcology - the fusion of architecture with ecology. Arcosanti is an urban laboratory focused on pursuing lean alternatives to urban sprawl through innovative design with environmental accountability.
- **Old Town Scottsdale.** Take a walk through the historic Old Town Scottsdale and get a flavor of the old west. Wooden sidewalks and rustic traditions are preserved as you tie your horse to each shop's hitching post. Browse the many quaint stores that line the streets of Old Town and you'll find a mix of traditional Western-wear retailers, Southwestern specialty shops and tasty treats.
- **Greasewood Flat.** The original stagecoach stop between Fort McDowell and Phoenix, the Greasewood Flat bar is housed in a 120+-year-old bunkhouse. Greasewood Flat (which serves hearty burgers and some wicked libations) and the nearby Reata Pass Steakhouse are located at an elevation 2000 feet above the valley floor making the night air 10 degrees cooler.

In addition, many parks have been established to preserve the desert landscape in areas that would otherwise quickly be developed with commercial and residential zoning. Aside from the Desert Botanical Garden listed above, the most noteworthy park is South Mountain Park, the world's largest municipal park with 16,500 acres (67 km²); others include Camelback Mountain, Sunnyslope Mountain, also known as "S" Mountain, and Piestewa Peak, which boasts dozens of miles of trails to enjoy the glory of the Sonoran Desert in relative solitude. Encanto Park, named one of the "Top 12 Best City Parks in America!" by the Forbes Magazine, is the city's largest and primary urban park, and lies just northwest of downtown Phoenix. Papago Park in east Phoenix is home to both the Desert Botanical Garden and the Phoenix Zoo, as well as a few golf courses.

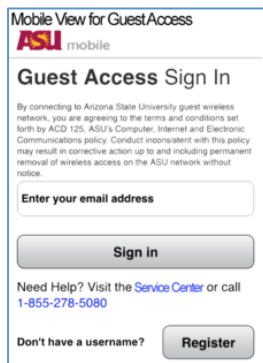
WIFI INFORMATION

Guests at ASU are required to register their email address in order to gain access to the “asu guest” WiFi network. To connect to ASU’s guest network, there is a simple three step process:

1. Connect to the “asu guest” WiFi network.
2. Once connected you must open your web browser, and go to the login website – it should automatically go to the network login screen.
3. You will be redirected to the appropriate registration screen.

Other need to knows about the enhanced security to the “asu guest” network:

- After registering once with “asu guest” you will be able to login with the email address you provided.
- The “asu guest” network requires re-registration every 12 hours.
- The “asu guest” network is rate limited at 2 megabits per second, per user



Mobile View for Guest Access
ASU mobile

Guest Access Sign In

By connecting to Arizona State University guest wireless network, you are agreeing to the terms and conditions set forth by ACD 125, ASU's Computer, Internet and Electronic Communications policy. Conduct inconsistent with this policy may result in corrective action up to and including permanent removal of wireless access on the ASU network without notice.

Enter your email address

Sign in

Need Help? Visit the [Service Center](#) or call 1-855-278-5080

Don't have a username? Register



Desktop View for Guest Access

ASU ARIZONA STATE UNIVERSITY

Guest Access Sign In

By connecting to Arizona State University guest wireless network, you are agreeing to the terms and conditions set forth by ACD 125, ASU's Computer, Internet and Electronic Communications policy. Conduct inconsistent with this policy may result in corrective action up to and including permanent removal of wireless access on the ASU network without notice.

Returning? Type your email and click Sign In.

New Here? Click Register

Email:

Sign in

Guest Access is limited to 12hrs, and rate limited.
If you have an ASURITE ID, click here to upgrade to ASU Encrypted Wireless

Need help? Call 1-855-ASU-5080 (1-855-278-5080)