

June 10-14, 2012

SDPS 2012 Berlin™

Call for Papers & Participation

Park Inn by Radisson ■ Berlin ■ Germany

The 17th International Conference on

Transformative Science, Engineering, and Business Innovation

Dedicated to the Memory of

Dr. Carl Adam Petri & Dr. Konrad Zuse

Dr. Petri: Pioneered system analysis with "Petri Nets"

Dr. Zuse: Invented first functional electronic computer

Conference Theme

The Technology of Complex Systems

Handlungskompetenz
for a Better Environment, Life,
and Future Possibilities for Humanity

Local Organizer

Humboldt-Universität zu Berlin

Co-Organizer

FernUniversität in Hagen

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Texas A&M University-Commerce

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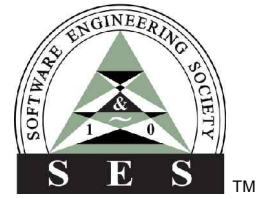
University of Texas, IC2 Institute

University of Alabama at Birmingham (UAB)

Software Engineering Society

The Society for Design and Process Science

Transformative Research through Transdisciplinary Means™



The Brandenburg Gate Ancient Entrance to the Modern City of Berlin



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Important Dates:

Paper Submission Deadline • March 9, 2012
Paper Acceptance Notification Date • April 6, 2012
Camera Ready Manuscript Due • May 4, 2012
Online Conference Registration Opens • January 23, 2012
Early Registration Ends • May 7, 2012
If staying at Park Inn Hotel, please book before April 15, 2012
Last day for discount rooms at Park Inn • May 14, 2012
Conference Begins • June 10, 2012

Invitation to Participate:

We welcome proposals for workshops and special sessions. Please submit your ideas to one of these contacts on or before January 31, 2011:

Dr. Bernd Krämer: Bernd.Kraemer@FernUni-Hagen.de
Dr. Murat Tanik: mtanik@uab.edu.

Further information on workshops and sessions can be found in the **Session Planning Guide** available from our main site: <http://sdpsnet.org>.

If you would like to become a sponsor, please contact Dr. Bernd Krämer

Welcome to SDPS 2012 Berlin

The SDPS 2012 conference in Berlin, Germany, focuses on transformational engineering, science, business, and education while addressing both the research and practice of a “better environment, life, and future possibilities for humanity.”

Institutions within Germany use a very special term to define a holistic approach to competency through direct involvement: *handlungskompetenz*—participatory design and construction of socio-technical systems. Since its inception SDPS has held as a value the connection between knowing and doing as we examine the difficult unstructured problems of the day. It is therefore fitting that SDPS 2012 seeks participation and original case studies, research papers and presenters interested to create a dialog and an open space for collaboration toward the “civilizing effect of science” (Dr. Steven Weinberg), “the transformation of existing situations into preferred situations” (Dr. Herbert Simon) and “innovation, creativity and capital” (Dr. George Kozmetsky).

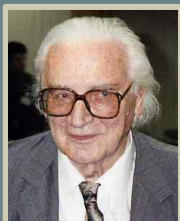
Nature, society, culture, technology and individual behavior are aspects of the advanced and complex engineering design landscape. As we move beyond the classic mechanistic and computational models of the past, relationships among systems of knowledge and action give rise to new possibilities for the future including new modes of inquiry, practice, communication and collaboration.

Opportunities and challenges of the future will be addressed through innovation and technology that stem from complex systems of actors, knowledge and technical infrastructure. Design involves the designer, the environments in which the system resides throughout its life cycle and the participant (or “end user”).

A diverse group of technologies has emerged from the scientific study of complex systems. Engineers, scientists and technicians are rapidly adapting these discoveries to push the boundaries of design beyond anything imagined only a few decades ago. iPhones, smart grids, robotics, knowledge systems, cyber-physical systems, cognitive computing, energy clouds, and complex systems are now generating their own form of complexity as they enter service within natural, environmental, and human domains. These considerations must be included in the future design of transformational complex systems and processes.

Please join us at SDPS 2012 in beautiful city of Berlin, Germany for relevant and timely discourse about systems, technology, society and innovation. This year's conference promises to bring the latest theories, technologies, and approaches from the forefront of complex system research and real world “hands-on” practice. ■

SDPS 2012 Conference Dedications



Dr. Konrad Zuse
Engineer

Created First Practical Programmable Computer



Dr. Carl Adam Petri
Engineer

Inventor of “Petri Nets”

Dr. Konrad Zuse was a brilliant young civil engineer, who in 1941 created the first operational “Turing complete,” programmable electro-mechanical computer. Working in isolation and using spare parts from telephone switches, his achievement marks the beginning of the digital age. Dr. Zuse and Dr. Petri were friends and colleagues and their combined contributions ignited the age of computing.

Among his truly visionary ideas, Carl Adam Petri suggested a modeling technique that considers concurrency a fundamental aspect of computing. Today, “Petri Nets” represents a very broad framework for the construction and analysis of concurrent and distributed systems such as complex interacting systems and work flow management.

The Berlin Museum



The Beautiful Museum für Naturkunde Berlin

The SDPS 2012 Sunday Reception will be held here among one of the finest dinosaur collections in the world.

“Dine among the Dinos”



SDPS 2012 brings together international researchers and practitioners from many disciplines to present their latest achievements and innovations. SDPS 2012 is a focal point for **Transformative Science, Engineering, and Business Innovation**.

Major Topics: Collective intelligence • Cyber security • Contextual intelligence mining • Risk management • Bio-informatics • Design automation • Innovation and entrepreneurship • Intelligent energy systems • Social engineering • Software engineering • Systems engineering • Network centric systems • Data mining • Engineering and system software • Space systems • Semantic computing • and More

Conference Registration Fees:

Member Registration (Early):	550 €
Non-Member Requesting Membership (Early)	595 €
Non-Member Registration (Early)	650 €
Member Registration (After May 7 th)	595 €
Non-Member Requesting Mem. (After May 7 th)	650 €
Non-Member Registration (After May 7 th)	695 €

Registration fee includes:

- * **Free Lunch Buffet** for all 4 conference days
- * Free conference area wireless internet access

Registration will open no later than January 23, 2012.
Please watch our website for more details:

<http://www.sdpsnet.org>

Park Inn by Radisson Berlin Alexanderplatz

Alexanderplatz 7, D-10178 Berlin, Germany

Phone: +49-30-2389-0

<http://www.parkinn-berlin.de/default-en.html> (English)

SDPS 2012 Berlin will be held at the **Park Inn by Radisson Berlin Alexanderplatz**, located in the city center with an unforgettable panoramic view over Berlin.

The Park Inn by Radisson Berlin Alexanderplatz features 1012 non-smoking rooms and suites on 37 floors in a 150-meter high building. The high-quality furnishings and modern design meet the standards of a four-star superior hotel, offering everything that demanding travelers expect. Suites and rooms partly feature marble bathrooms and a flat screen TV. High-speed Internet is available in all rooms. Rooms for persons with allergies as well as wheelchair-friendly rooms are available upon request.

Park Inn Hotel Rates for Conference

Single Occupancy 114 € VAT included
Double Occupancy 124 € VAT included

- * **Free Breakfast Buffet** included in the room rate
- * All taxes and service charges included.
- * Free access to wellness area.
- * In-room high speed Internet €18/day.
- * Conference area wireless Internet free

A link for online room reservations will be posted soon.
Please watch our website for details. <http://sdpsnet.org>

Special Guest Speakers



Dr. Helmut Hoyer
Rector

FernUniversität in Hagen

Dr. Helmut Hoyer, Rector of FernUniversität in Hagen, will open the SDPS 2012 Conference in Berlin. Prof. Helmut Hoyer was elected Rector of FernUniversität in Hagen in 1997 and has since been re-elected three times. He started his fourth term of office in 2010. Before his first election as Rector he had already acted as a university manager in his roles as Dean of the Faculty of Computer Science and Electrical Engineering of FernUniversität and as a Vice Rector Planning and Finance. Between 1999 and 2008 he was Acting President of the International Council for Open and Distance Education (ICDE) and between 2001 and 2002 he was Chairman of the Rectors' Conference of North Rhine-Westphalia. In 2002 he became a Member of the Board of Trustees of the Fraunhofer Institute for Environmental, Safety and Energy Technology and 2004 – 2006 he acted as Academic Director of the Centre for eCompetence at Universities in North Rhine-Westphalia (CeC). In 2005 he was awarded the Bundesverdienstkreuz by the President of the Federal Republic of Germany. Since 2007 Prof. Hoyer has been member of the University Council of Bamberg University.

Helmut Hoyer studied Electrical Engineering at the University of Karlsruhe and acquired his doctorate in engineering at FernUniversität in 1984. After 3 years of research at the Institute of Robotics Research of the University of Dortmund, where he headed the group 'Robot Control and Multi-Robots Systems', he returned to FernUniversität as a Full Professor and Chair of Control Systems Engineering. His research activities focus on robotics and assistive technologies for elderly people and people with disabilities. One main objective of his rectorate is the use of Information and Communication Technology in teaching (Virtual University) and the positioning of FernUniversität in the future national and global university landscape.

From Our First Conference

“Many of you have recognized the feasibility that now is the time to start a new professional society to foster, to identify and to extend a core of science that deals with design and processes across a broad spectrum of human, technological and economic endeavors.”

Dr. George Kozmetsky
Keynote Address, First SDPS Conference
December 1995, Austin, Texas



Dr. Horst Zuse
Professor

University of Applied Sciences
in Senftenberg

Dr. Horst Zuse is son of famed engineer, Dr. Konrad Zuse, who, in 1941, created the first programmable electronic computer. His father is one of the great engineers to whom we dedicate this year's conference. Dr. Horst Zuse will deliver the dedication address at the Gala Awards Banquet and participate in the display of the actual Z3 computer during the conference.

Dr. Horst Zuse was born at November 17, 1945 in Hindelang (Bavaria in Germany). He received his Ph.D. degree in computer science from the Technische Universität (TUB) of Berlin in 1985. Since 1975 he has served as a senior research scientist with the Technische Universität Berlin. His research interests are information retrieval systems, software engineering, software metrics, computer history and computer architectures.

In 1991 he published the book, *Horst Zuse: Software Complexity - Measures and Methods* (De Gruyter Publisher) and in 1998, *Horst Zuse: A Framework for Software Measurement* (DeGruyter Publisher). In 1998 he received the habilitation (Privatdozent) in the area of Praktische Informatik (Practical Computer Science) and since 2006 he is a Professor with the University of applied Sciences in Senftenberg.



Created by Dr. Konrad Zuse in 1941, the Z3 was the world's first working programmable, fully automatic computing machine. When judged by modern standards the Z3 was the first machine that could be considered a complete computing machine. The original Z3 was destroyed during the war but a fully functioning replica was built in the 1960s by Zuse's company and will be on display the conference.

Special Birthday Celebrations



Dr. Bernd Krämer's

== 65th ==

Board Member ■ President of SDPS (2002-2006) ■ Recipient of the SDPS Ramamoorthy Award and the Raymond T. Yeh Award ■ SDPS Fellow

Dr. Bernd J. Krämer is the Chair of Data Processing Technology of FernUniversität in Hagen and a member of the Supervisory Board of his university. As a long time SDPS President, Professor Krämer was instrumental in guiding SDPS through the difficult formative years of the Society's development. He is now a member of the Board of Directors of SDPS. He set a leadership direction which put SDPS on a course to take its place among the great professional societies of the future. SDPS is very pleased to recognize the 65th birthday of this wonderful friend and collaborator to whom we owe a great measure of gratitude.



Dr. Raymond Yeh's

== 75th ==

Founding Board Member ■ First President of SDPS ■ Recipient of the SES Transformative Achievement Award (2010) ■ SDPS Fellow

Dr. Raymond T. Yeh is a true pioneer of the discipline of software engineering. He was the founding Editor-in-Chief of the prestigious IEEE Transactions for Software Engineering and founder of the International Conference on Software Engineering. Dr. Yeh was the first President of SDPS and has been the inspirational figure for generations of SDPS members and contributors. Before there was a Society, he suggested we include "process" in the Society name—a decision which set the course to our future. SDPS is thankful for his vision and influence throughout the past 17 years. This year we celebrate the 75th birthday of this remarkable man.

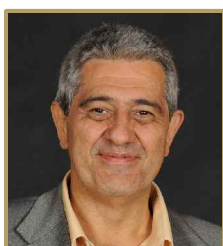


Dr. Murat Tanik's

== 65th ==

Founding Board Member ■ President of SDPS (2000-2002) ■ Recipient of the SDPS Presidents Award ■ SDPS Fellow

Dr. Murat M. Tanik one of a small group who founded SDPS. The very core of our pursuit of design and process science comes largely from his research. It was Professor Tanik who sparked the interest of Dr. George Kozmetsky as a result of a chance meeting in Brazil with one of the IC2 directors. He is a professor in the Department of Electrical and Computer Engineering at the University of Alabama at Birmingham. He is an internationally respected and accomplished scientist who has dedicated his life to SDPS for over 17 years. His great insight has placed SDPS in a position of leadership for the future. We are pleased to celebrate his 65th birthday.



Dr. Fuad Gattaz Sobrinho
SES President

Software Engineering Society

Software engineering is rather young as engineering discipline. During the past 40+ years, the field has grown into an extremely broad discipline, integrating knowledge from computer science, mathematics, management, design, process science, economics, psychology, sociology and many others. SES was formed in the year 2000 as an integral part of SDPS. As it grows, SES intends to embrace the full breadth of knowledge of software engineering and seek the future of this largest and youngest of all principle engineering disciplines.



**Embracing the
Universality of Software**

Conference Organization

SDPS2012 Conference Committee Honorary Chairpersons

Dr. Helmut Hoyer, Rector, FernUniversität in Hagen, Germany
Dr. C. V. Ramamoorthy, SDPS Fellow, Professor Emeritus, University of California at Berkeley Berkeley, CA
Dr. Günter Stock, President, Berlin-Brandenburg Academy of Sciences and Humanities, Germany
Dr. Raymond T. Yeh, SDPS Fellow & Honorary Board Member, CA

SDPS Development Committee Chairperson

Adem Unal, Founder, GEMSAN, Istanbul, Türkiye

Steering Committee Chairpersons

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Dr. Fuad G. Sobrinho, SDPS Fellow, President of Ambiencia Information Systems, Ltd, Campinas, Brazil
Stan Gatchel, Senior Advisor, Society for Design and Process Science

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Dr. Sang Suh, Head Computer Science Department, Texas A&M University-Commerce, Commerce, TX

Program Committee Chairpersons

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Dr. Peng Han, Professor & Director, Chongqing Academy of Science & Technology, Chongqing, China
Dr. John Carbone, Chief Engineer, Raytheon, Dallas, TX

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Dr. Jörn Altmann, Professor, College of Engineering, Seoul National University, Seoul, South Korea
Dr. Ali Dogru, Assistant Chair, Computer Engineering, METU, Ankara, Türkiye

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Dr. Wolfgang Reisig, Professor, Humboldt-Universität zu Berlin, Germany
Birgit Heene, Humboldt-Universität zu Berlin, Germany

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Chairperson: Dr. Varadraj Gurupur, UAB, Texas A&M University-Commerce, Commerce, TX

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Dr. Murat M. Tanik, Professor, UAB, Birmingham, AL
Dr. Bernd Krämer, Professor, FernUniversität in Hagen, Germany
Dr. Raymond T. Yeh, Honorary Board Member, SDPS Fellow, CA

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Dr. Cengiz Togay, Çanakkale Onsekiz Mart University, Çanakkale, Türkiye

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Co-Chairperson: Hauke Coltzau, FernUniversität in Hagen, Germany

Finance Committee

Chairperson: Stan Gatchel, Treasurer, Society for Design and Process Science.

Documentation Committee

Chairperson: Kürşat Arslan, UAB, Birmingham, AL
Co-Chairperson: Zekai Demirezen, UAB, Birmingham, AL

Charlottenburg Palace built in 1699



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Festival of Lights



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Travel Information

Air Travel

Most major airlines around the world fly to Berlin. Many have direct flights. Check with your travel agent for the latest information.

Important: Berlin Tegel (TXL) is scheduled to cease operations by June 2, 2012 when all traffic will transfer to the new Berlin-Brandenburg International Airport (BER) at Schönefeld. Please check with your airline or travel agent.

Public Transport from Airport to Hotel

Subway/Trains: The best way to get from the Airport to the Park Inn Hotel is by train. The new airport will offer two regional trains traveling to Berlin Main Station every 15 minutes via different routes. One of them will stop at Alexander Square, where the Park Inn hotel is located. From Berlin's Main Station you just take an S-Bahn going east. The 3rd station is Alexander Square. Please check the conference website (sdpsnet.org) for the latest information because [the new airport will open just 7 days before the conference begins](#).

Taxi/Bus: We recommend you use the trains. Taxis are readily available outside the terminal but will be expensive (70+ EUR). Similarly major car rental agencies are available (Avis, Budget, Europcar, Hertz, National, and Sixt) but are not as convenient as the trains.

Non-Air Travel

Long Distance Rail Travel: Within Germany there is an extensive rail network operated by Deutsche Bahn. There are excellent connections between Germany and other main European cities. For more information please check the Deutsche Bahn site: <http://www.bahn.de/i/view/USA/en/i/index.shtml>

Long Distance Car Rental & Road Travel

If you are traveling within Europe, rail travels is best. Rental cars are available at most towns, airports, and at over 40 railway stations - all major international car rental companies are present in Germany. Please check with your rental agency to drivers license requirements. Reciprocity is not granted for all states or countries.

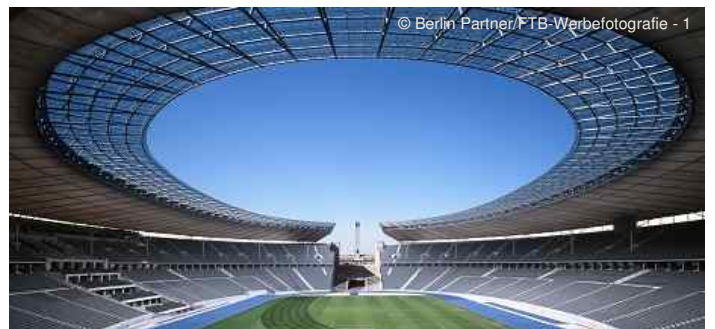
Visa-Free Entry

To enter Germany, a passport valid for the length of stay is required by all Australian, British, Canadian and USA nationals for stays not exceeding 90 days in a six-month period. The stay begins when these nationals enter the country. *All other nationals outside the EU and not referred to above are advised to contact the embassy to check visa requirements for Germany.*

Berlin Website

<http://www.berlin.de/>

The Park Inn:
Site of the SDPS 2012 Conference



“...Today, complexity is a word that is much in fashion. We have learned very well that many of the systems that we are trying to deal with in our contemporary science and engineering are very complex indeed. They are so complex that it is not obvious that the powerful tricks and procedures that served us for four centuries or more in the development of modern science and engineering will enable us to understand and deal with them. We are learning that we need a science of complex systems, and we are beginning to construct it ...”

Nobel Laureate Herbert A. Simon
Keynote Speech
2000 SDPS Conference



The Society for Design and Process Science