Potsdamer Process Engineering Week



Kongresshotel am Templiner See
2-5 June 2009

ICECCS

14th International IEEE Conference on Engineering of Complex Computing Systems

UML & AADL Workshop

ISoLA-Med 2009

1st International ISoLA Symposium on Structural Changes and Market Dynamics in the Healthcare Sector

ISoLA-Bio 2009

1st International ISoLA Workshop on Modeling, Analyzing, Discovering Complex Biological Structures

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ICECCS Invited Speakers

Prof. Dr. Bernhard Steffen

TU Dortmund

Tuesday, June 2nd, 9:00-10:20

Continuous Model Driven Engineering

Agility is a must, in particular for business applications.Complex systems and processes must be continuously updated in order to meet the ever changing market conditions. Continuous Model Driven Engineering is based on our eXtreme Model-Driven Design (XMDD) framework, which has been designed to continuously involve the customer/application expert throughout the whole systems' life cycle including software maintenance and evolution. Conceptually, it is based on the One Thing Approach (OTA), which combines the simplicity of the waterfall development paradigm with a maximum of agility. The key to OTA is to view the whole development process simply as a complex hierarchical and interactive decision process, where each stakeholder, including the application expert, is allowed to continuously place his/her decisions in term of constraints. Thus semantically, at any time, the state of the development or evolution processb can simply be regarded as the current set of constraints, and each development or evolution step can be regarded simply as a transformation of this very constraint set. This approach, conceptually, allows one 1) to monitor globally and at any time the consistency of the development or evolution process simply via constraint checking, and 2) to impose a kind of decision hierarchy by mapping areas of competencies to roles of individuals, in order to identify required actions in case of constraint violation. The essence and power of this approach, which is technically supported by the jABC development and execution framework , will be illustrated along a number of real life application scenarios.

Prof. Dr. Ing. Habil. Thomas Magedanz

Fraunhofer Fokus/TU Berlin

Wednesday, June 3rd, 9:00-10:20

On the increasing complexity of multimedia service provision in next generation networks and the future internet

In regard to the emerging web 2.0 service explosion the telecommunications landscape is evolving rapidly from a voice and messaging centric environment towards an open multimedia service and content market. Whereas historically specific telecommunication services (such as voice telephony) have been provided in dedicated network environments (such as the PSTN/ISDN) with specific service delivery platforms (SDPs) in charge for the control of value added services (such as the Intelligent Network), we today see the notion of seamless interactive multimedia communication and information services, often referred to as X-Play services, on top of converging networks.

This convergence of fixed and mobile telecommunication networks with the internet is driving the definition and implementation of the so-called *next generation network (NGN)*. In fact, the NGN represents a practical combination of traditional telecommunications and new internet ideas, architectures, and protocols and finally defines a three layer architecture, in which network transport aspects are separated from the network and service signaling aspects and higher layer application aspects. By definition the NGN should support an open set of multimedia applications and therefore provide the necessary flexibility on the lower layers in regard to quality of service, security, charging, etc. A dedicated applications platform is not standardized, although in the last five years the *IP Multimedia Subsystem (IMS)* has emerged as the uniform signaling control platform within the NGN. However, the IMS is not addressing fundamental aspects, such as service creation, deployment, control and management aspects. This is considered to be part of a *Service Delivery Platform, (SDP*) operating on top of IMS.

In the context of SDPs, which mainly provide an extensible service component infrastructure for the rapid implementation of services on top of any network infrastructure, information technologies are representing the foundation for their realization. In the last years, the *service oriented architecture (SOA)* paradigm has emerged as a major design principle for SDPs and resulted in the definition and development of highly distributed software systems, which particularly allow the import and export of service enabling capabilities from and to 3rd party service and content providers via dedicated *Application Programming Interfaces (APIs).* In this context service mashups within the Web 2.0 environment represent probably the most ultimate service oriented architecture which SDPs have to interwork with.

In regard to the emerging converged web / telco 2.0 value chain, in which content and service providers make use of service enabling capabilities exposed via open network APIs from service platform providers, which in turn make use of underlying network capabilities provided by potentially different network operators, the complexity of the overall service creation, provision, execution and management infrastructure is entering a new dimension.

This system complexity is even increased in view of the emerging *Future Internet (FI)* and the next step in NGN evolution, in which the network nodes themselves become programmable service nodes with self managing capabilities and dedicated multimedia services may be finally implemented by means of defining a dedicated dynamic service overlay network, which also allows the definition of new protocol stacks on demand.

This keynote will provide an overview of the trends and challenges in multimedia service provision in NGNs and the emerging FI.

Panel:
Complexities and Future Generation Systems: what lies ahead?

Moderator: Mike Hinchey

Thursday, June 4th, 15:30-16:50

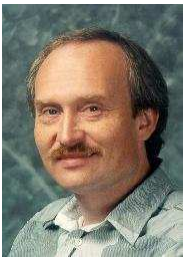
Special Project Session:
CONNECT: Emergent Connectors for Eternal Software Intensive Networked Systems

Project leader: Valerie Issarny

Wednesday, June 3rd, 15:30 -18:00

Workshop UML&AADL'2009:

Keynote Speaker



Oleg Sokolsky
The performance analysis of AADL models
Tuesday, June 2nd , 10:40-12:00

Panel: Scheduling analysis from different levels of modeling

Oleg Sokolsky, Peter Feiler, Frederic Mallet
Tuesday, June 2nd , 17:50

ISoLA-Bio und ISoLA-Med Symposia:

Keynote:

Unternehmenspolitische Neuausrichtung unter den Bedingungen von Gesundheitsfonds und morbiditätsorientiertem Risikostrukturausgleich

Jürgen Heese (Telemed Initiative Brandenburg)
Thursday, June 4th, 10:20-10:50

Podium Discussion

Dr. Barbara Hogan, Prof. Dr rer. pol. Andrea Braun v. Reinersdorff, Michael Siebke , Jürgen Heese
(Moderation Prof. Dr. Christoph Rasche)
Thursday, June 4th, 10:50-12:00

Legend

Color	Room	Room Nr.
	Conference Room	0.226
	Seminar Room	0.235
	ISoLA-Med Room	0.233
	ISoLA-Bio Room	0.231

Tuesday, June 2nd

	Conference Room	Seminar Room
8:30-9:00	Opening Session	
9:00-10:20	**Keynote Speaker** **Prof. Dr. Bernhard Steffen** **Continuous Model Driven Engineering**	
10:20-10:40	**COFFEE-BREAK**	
10:40-12:00	**Verification, Testing and Integration** **A Proof Based Approach for Modelling and Verifying Web Services Compositions** *Idir Ait Sadoune, Yamine Ait Ameur* **Application-Specific I/O Integration Support Tool for Real-Time Bus Architecture Designs** *Min-Young Nam, Lui Sha, Richard M. Bradford, Rodolfo Pellizzoni* **Testing an Open Source Suite for Open Queuing Network Modelling using Metamorphic Testing Technique** *Wing Keung Tam, Diana F.C. Kuo, Robert Merkel, Tsong Chen*	**Workshop UML&AADL'2009** **Introduction of the workshop** **Keynote Speaker** **Oleg Sokolsky** **The performance analysis of AADL models** **Verification** **Verification of Replication Architectures in AADL** *Dionisio de Niz, Peter H. Feiler* **UML Modeling and Formal Verification of control/data driven Embedded** *Fateh Boutekkouk,Mohamed Benmohammed*
12:00-13:30	**LUNCH**	
13:30-15:10	**Software Architecture** **Architecture Design for the Large-Scale Software-Intensive Systems: A Decision-Oriented Approach and the Experience** *Xiaofeng Cui* **Towards OpenWorld Software Architecture with Semantic Architectural Styles, Components and Connectors** *Weishan Zhang, Klaus Marius Hansen, Joao Fernandes* **Architecture-Driven Modernization in Practice – Study Results** *Andrey Sadovykh, Lionel Vigier, Eduardo Gomez, Andreas Hoffmann, Juergen Grossmann, Tom Ritter, Oleg Estekhin* **Energy-Efficient Duty Allocation Protocols For Wireless Sensor Networks** *Jonathan Tate, Iain Bate*	**Workshop UML&AADL'2009** **Execution, Implementation, Simulation** **Modeling the Implementation of State-Based System Architectures** *Peter H.Feiler* **Executing AADL models with UML/Marte** *Frédéric Mallet, Charles André, Julien DeAntoni* **Automating the generation of platform specific models** *W. El Hajj Chehade, A. Radermacher, A. Cuccuru, S. Gérard and F. Terrier* **AADL Simulation and Performance Analysis in SystemC** *Roberto Varona-Gomez, Eugenio Villar*

	Conference Room	Seminar Room
15:10-15:30	COFFEE-BREAK	
15:30	**Modelling** **Formal Modelling and Analysis of Business Information Applications with Fault Tolerant Middleware: a Practical Experience Report** *Jeremy Bryans, John Fitzgerald, Alexander Romanovsky, Andreas Roth* **Ontology-Aided Model Comparison** *Kleinner Oliveira, Karin Breitman, Toacy Oliveira* **REMES: A Resource Model for Embedded Systems** *Cristina Seceleanu, Paul Pettersson, Aneta Vulgarakis*	**Workshop UML&AADL'2009** **Comparisons** **A comparative study of FIACRE and TASM to define AADL real time concepts** *Lei Pi, Zhibin Yang, J-P Bodeveix, M.Filali, Kai Hu, Dianfu Ma* **Common Pitfalls of Using QVT Relations - Graphical Debugging as Remedy** *Angelika Kusel, Wieland Swinger, Manuel Wimmer, Werner Retschitzegger* **Visual Comparison of Graphical Models** *Arne Schipper, Hauke-Fuhrmann, Reinhard von Hanxleden* **Model-based Methodologies** **Constraint management for engineering of DRE systems** *Marie-Noelle Terrasse, Marinette Savonnet, Eric Leclercq, Pierre Naubourg, Valery Lopes, Arnaud Da Costa, and Thierry Grison*
16:50		**Integrating AADL within a multi-domain modeling framework** *Ivano Malavolta, Henry Muccini, Patrizio Pelliccione* **Towards a Model-Driven Approach for Mapping Requirements on AADL Architecture** *Mathieu Delehaye, Christophe Ponsard* **An Emerging Need for a New Software Engineering Method** *Isabelle Perseil, Laurent Pautet*
17:50	**Panel: Scheduling analysis from different levels of modeling** **Oleg Sokolsky, Peter Feiler, Frederic Mallet**	
19:00		

Wednesday, June 3rd

	Conference Room	Seminar Room
8:30-9:00		
9:00-10:20	**Keynote Speaker** **Prof. Dr. Ing. Habil. Thomas Magedanz** **On the increasing complexity of multimedia service provision in next generation networks and the future internet**	
10:20-10:40	**COFFEE-BREAK**	
10:40-12:00	**Formal Models and Code** **From Workflow Models to Code in Bio-jETI** *Anna-Lena Lamprecht, Tiziana Margaria, Bernhard Steffen* **Formal Specification and Code Generation of Programable Logic Controllers** *Rui Wang* **Analysis and Model Extraction for C/C++ Source Code** *Christian Wagner, Hans-Georg Pagendarm, Tiziana Margaria*	**Special Track: From Theory to Practice** **Model Management Language Engineering** *Richard Paige, Dimitrios Kolovos* **Test your Strategy: Intuitive Programming for Novices and Experts** *Sven Jörges, Marco Bakera* **Abstractions of Web Services** *Ali Abdallah, Ali N. Haidar*
12:00-13:30	**LUNCH**	
13:30-15:10	**Security, Trust and Dependability** **Security aspect of the complexity of modern surveillance systems: An experience report** *Aleksandra Karimaa* **A Rigorous Approach to Uncovering Security Policy Violations in UML Designs** *Lijun Yu* **Computational trust to insure the quality of assistance given to human actors** *Christine Gertosio* **Benchmarking Dependability of a System Biology Application** *Alexander Romanovsky, Anatoliy Gorbenko*	**Special Track: Integrating Software Engineering and Human-Computer Interaction** **Using Cases in Variability Analysis to Promote the Design of Flexible, Adaptable and Adaptive Systems** *Bruno Santana da Silva, Simone Diniz Junqueira Barbosa, Julio Cesar Leite* **ATRIUM: Software Architecture Driven by Requirements** *Elena Navarro, Francisco Montero* **Enabling eXtreme Model Driven Design of Parlay X-based Communications Services for End-to-end Multiplatform Service Orchestrations** *Niklas Blum* **Towards an Embedded Software Component Quality Verification Framework** *Fernando Carvalho, Silvio Meira*
15:10-15:30	**COFFEE-BREAK**	

	Conference Room	Seminar Room
15:30	**CONNECT: Emergent Connectors for Eternal Software Intensive Networked Systems** **An introduction to CONNECT: Overcoming the interoperability challenge** *Valerie Issarny* **Beyond Middleware: the Challenge of Interoperability in a Complex World** *Paul Grace* **Software verification for ubiquitous computing** *Radu Calinescu* **Dynamic connector synthesis** *Paola Inverardi, Massimo Tivoli* **Retrieving Protocol Behaviour by Experimentation** *Bernhard Steffen* **Ensuring dependability and security of dynamically connected systems** *Antonino Sabetta* **Plenary closing discussion**	**Special Track: From Theory to Practice** **Evaluation of NSGA-II and MOCell Genetic Algorithms for Self-management Planning in a Pervasive Service Middleware** *Weishan Zhang, Klaus Marius Hansen* **SBAC: Service Based Access Control for Mitigating DDoS Flooding Attacks** *Udaya Tupakula* **On the Applicability of Compressive Sampling in Fine Grained Processor Performance Monitoring** *Sean Rooney, Tomas Tuma, Paul Hurley*
16:50		
18:00		
19:00-20:30	**ICECCS CONFERENCE DINNER**	

Thursday, June 4th

	Conference Room	ISoLA-Med Room	ISoLA-Bio Room
8:30-9:00			
9:00-10:00	**Opening Session of the ISOLA Workshops (Plenary)** **Prof. Dr. Tiziana Margaria, Prof. Dr Christoph Rasche (ISoLA General Chairs)** **Prof. Dr. Joost Kok, Dr. Lars Blank (ISoLA-Bio Program Chairs)** **Prof. Dr. rer. pol. Andrea Braun v. Reinersdorff, Prof Dr. Bernhard Steffen (IsoLA-Med Program Chairs)** **Prof. Dr. Joachim Selbig (Max-Planck-Institut für Molekulare Pflanzenphysiologie und Universität Potsdam)** **Prof Dr. Guido Reger (Vorsitzender BIEM e.V. Potsdam)**		
10:00-10:20	**COFFEE-BREAK**		
10:20-12:00	**Wearables, Augmented and Virtual Reality** **WSN Monitoring Framework based on 3D Visualization and Augmented Reality in Mobile Devices** *Bonhyun Koo, Hyohyun Choi, Taeshik Shon* **An Automated Platform for Immersive and Collaborative Visualization of Industrial Models** *Nelson Duarte Filho, Silvia Botelho, Jonata Carvalho, Pedro Marcos, Renan Maffei, Rodrigo Remor Oliveira, Vinicius Hax* **Information system architecture for wearable cardiac sensors personalization** *Asta Krupaviciute, Jocelyne Fayn, Christine Verdier, Eric McAdams, Chris Nugent, Paul Rubel*	**Keynote:** **Unternehmenspolitische Neuausrichtung unter den Bedingungen von Gesundheitsfonds und morbiditätsorientiertem Risikostrukturausgleich** *Jürgen Heese* *(Telemed Initiative)* **Podium Discussion** **(Moderation Prof. Dr. Christoph Rasche)** ***Dr. Barbara Hogan*** *(Asklepios Klinik Hamburg-Altona, Präsidentin der DGINA eV)* ***Prof. Dr rer. pol. Andrea Braun v. Reinersdorff*** *(University of Applied Sciences Osnabrück)* ***Michael Siebke*** *(Ministerium für Arbeit, Soziales, Gesundheit und Familie Land Brandenburg)* ***Jürgen Heese*** *(AOK Brandenburg)*	**Human Systems Bio(techno)logy** **Applying physiology-based pharmacokinetic modeling for personalized medicine** *Lippert, Jörg, Kuepfer, Lars; Solodenko, Juri* **Using decision trees to characterise interactions contributing to disease-susceptibility in animal model of human autoimmune disease** *Moeller, Steffen; Olsson, Tomas; Thessén Hedreul, Mélanie; Jagodic, Maja* **Predictions of human odor descriptors and odorant chemical classes from glomerular response patterns in the rat olfactory bulb** *Madany Mamlouk, Amir* **Modeling Cellular Behavior and Pathways from in Vitro Cell Tracking using Image Analysis and Pattern Recognition.** *Kuan Yan, S. Le Dévédec, B. van de Water & F.J Verbeek*

12:00-13:30	**LUNCH**		
	Conference Room	**ISoLA-Med Room**	**ISoLA-Bio Room**
13:30-15:10	**Development Process and Requirements** **Some Observations on the Maturity Model for CBSE** *Ratneshwer Gupta, Anil Tripathi* **Applying the COSMIC Functional Size Measurement Method to Problem Frames** *Luigi Lavazza, Vieri del Bianco* **An integrated logic for system co-engineering** *Marius Bujorianu* **A Reflective Approach for Supporting the Dynamic Evolution of Component Types** *Cristóbal Costa-Soria, David Hervás-Muñoz, Jennifer Pérez, José Ángel Carsí*	**Beispiel Zukunft: Innovative Notfallaufnahme** **Das First-View-Konzept in der zentralen Notfallaufnahme** *Dr.med Barbara Hogan* **Pfade in der Notaufnahme: klassische (normative) Führungsmittel – oder rationale Prozesslogik zur Bändigung der fraktalen Versorgungsrealität?** *Dr. Med Georg Altrock*	**Algorithms and Software I** **Patterns and associations in spatio-temporal patterns of gene expression inzebrafish** *M. Belmamoune, F.J.Verbeek* **Linking Zebrafish genotype to phenotype, microarray interpretation using functional and anatomical annotations** *Yanju Zhang, F.J.Verbeek* **Reality-and-Desire in Gene Assembly in Ciliates** *Robert Brijder* **Visualising DNA with Rauzy projections** *Jeroen F.J. Laros*
15:10-15:30	**COFFEE-BREAK**		

	Conference Room	ISoLA-Med Room	ISoLA-Bio Room
15:30-16-50	**Panel** **Complexities and Future Generation Systems: what lies ahead?** **Moderator: Mike Hinchey**	**Information and Controlling in Healthcare: Issues, Technologies, Opportunities** **Anwendung und Evaluierung semantischer Retrievaltechnologien auf medizinische Befundtexte** *Lukas C. Faulstich* **Krankenhäuser als multifokale Expertenorganisationen? Anforderungen an die Führungs- und Managementsysteme** *Prof. Dr.Andrea Braun von Reinersdorff* **Perspektiven und Ansätze integrierter Versorgungsleistungen: Netzwerk Familiärer Brust- und Eierstockkrebs in Deutschland** *Dr. med. Kerstin Lüdtke-Heckenkamp*	**Microbial Systems Bio(techno)logy** **Metabolic regulation in amino acid producing Corynebacterium glutamicum** *Volker Wendisch* **Protein structure modelling based on various experimental data** *Wojtek Potrzebowski* **An approach and tools for interactive classification of complex objects** *Szczuka, Marcin, Bazan, Jan; Skowron, Andrzej* **Analytical Solutions and Machine Code Generation for High Performance Metabolic Flux Analysis** *Michael Weitzel, Katharina Nöh, and Wolfgang Wiechert* **FiatFlux-P** *Anna-Lena Lamprecht, Birgitta E. Ebert, Andreas Schmid, Lars M. Blank, Bernhard Steffen*
17:00-17.15	**Closing Session ICECCS**		
19:00	**ISoLA Reception (Neues Palais)**		

Friday, June 5th

	ISoLA-Med Room	ISoLA-Bio Room
9:00-10:00	**Process Innovation as Tool for Synergy and Improvement** **Prozessinnovationen in der Medizin** *Dr. Michael Repp (MBA)* **EMIDAS-Notaufnahme: Kriterien für einen essentiellen Datensatz an der Schnittstelle zwischen präklinischer und innerklinische Notfallmedizin** *Dr. Georg Altrock*	**From intra- to inter-organism transfer of functional knowledge** *Dr. Zoran Nikoloski* **Network-based approaches in biology** *Karfunkel, Torbjörn; Murali, T M; Dubhashi, Devdatt; Vemuri, Goutham*
10:00-10.20	**COFFEE-BREAK**	
10:20-11:40	**Processes in Quality Management and Human Capital Improvement** **EVA-Reha®: Die softwaregestützte Lösung zur prozess- und ergebnisorientierten Qualitätssicherung in der Rehabilitation. Ergebnisse und Evaluierung am Beispiel der orthopädischen Rehabilitation in Kliniken und Qualitätsverbünden** *Dr. Sigrid Linck-Eleftheriadis* **Workflow Management im Gesundheitswesen** *Prof. Dr. Tiziana Margaria* **Human Capital Management - Gibt es im Hinblick auf berufliche Gratifikationskrisen und Burnout Unterschiede zwischen Pflegenden in der Psychiatrie und in der Somatik** *Michael Löhr*	**Algorithms and Software III** **Can we predict the translocation pathway from the sequences of signal peptides?** *Kandaswamy, Krishnakumar Hartmann, Enno; Martinetz, Thomas; Fladea, Isabell; Moeller, Steffen* **Model reduction for rule-based models of molecular systems** *Krewinkel, Albert,Mallavarapu, Aneil; Madany Mamlouk, Amir* **Frequent Episode Mining supporting Developmental Pattern Analysis** *R.W. Bathoorn, , M.C.M. Welten, , M.K. Richardson, A.P.J.M. Siebes & F.J.Verbeek*
11:40-12:00	**Closing Session ISoLA (plenary) and Closing Potsdam Process Engineering Week**	
12:00-14:00	**LUNCH**	

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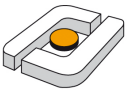

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