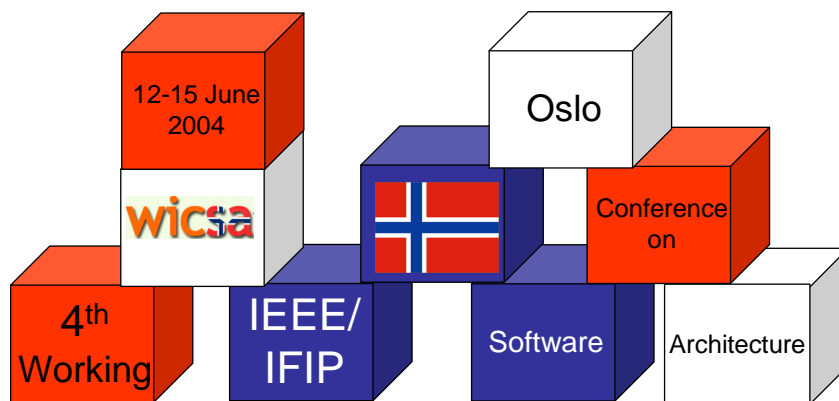

Conference Programme

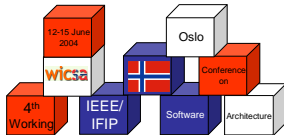


University of Oslo
June 12. – June 15. 2004



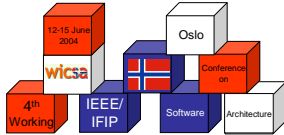
SINTEF PHILIPS computas






Program contents

Program contents.....	2
Program overview	3
Saturday June 12 th	3
Sunday June 13 th	3
Monday June 14 th	4
Tuesday June 15 th	4
Program details	5
Keynotes	5
• Keynote 1: From Objects to Components to Services - A formal framework for service-oriented architectures	5
• Keynote 2: Software Architectures for Mobile IP systems – future industrial challenges in variability and interoperability	5
Paper Sessions	6
• Paper Session I (Analysis I)	6
• Paper Session II (Analysis II)	6
• Paper Session III (Evolution).....	6
• Paper Session IV (Practice)	7
• Paper Session V (Requirements)	7
• Paper Session VI (Methods and Tools)	7
• Paper Session VII (Styles I)	8
• Paper Session VIII (Styles II)	8
• Paper Session IX (Large Systems).....	8
Working Sessions.....	9
• Working Session 1 (WS1) – Evolving Architectures I.....	9
• Working Session 2 (WS2) – Product Lines	9
• Working Session 3 (WS3) – Evolving Architectures II.....	9
• Working Session 4 (WS4) – Components and Viewpoints.....	10
• Working Session 5 (WS5) – Real time systems	10
• Working Session 6 (WS6) – Wiki WAN Party wrap up	10
Tutorials	10
• TA1 - Architecture-centric Software Engineering.....	10
• TA 2 - Software Architectures for Safe and Secure Systems.....	11
• TA 3 - Software Variability Management	11
• TA 4 - Software Architecture Documentation with the Unified Modeling Language (UML)	12
• TA 5 - Implementing Domain specific modelling languages for Product Families.....	12
Social program	13
• Welcome Reception (Saturday June 12 th)	13
• Boat Cruise w. Norwegian summer meal – Prawns, beer, wine (Sunday June 13 th)	13
• Joint Reception with ECOOP (Monday June 14 th)	15
Organisation	16
Program Committee	17




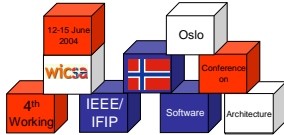
Program overview

Saturday June 12th


Timeslot	Technical Sessions (Store Aud)	Working Session (Lille Aud)
9:00		Wiki WAN Party Setup
10:30	Break	
11:00		Wiki WAN Party Setup
12:30		
13:00	Opening Arne J. Berre, Local organisation chair (15 mins) Jan Bosch, General Chair (15 mins)	
13:30	Keynote 1 Manfred Broy	
14:30	Wiki WAN Introduction	
15:00	Break	
15:30	Paper Session I (Analysis I)	
17:00	Panel: Service-oriented Architectures	
18:00 (until 20:00)	Welcome reception by SINTEF (See Social Program) 	

Sunday June 13th


Timeslot	Technical Sessions (Store Aud)	Tutorials (Lille Aud)
9:00	Paper Session II (Analysis II)	Tutorial I (TA1)
10:30	Break	
11:00	Paper Session III (Evolution)	Tutorial I (TA1)
12:30	Lunch	
13:30	Paper Session IV (Practice)	Tutorial II (TA2)
15:00	Break	
15:30	Paper Session V (Requirements)	Tutorial II (TA2)
18:00		
19:00	Boat Trip by Computas (See Social Program) 	

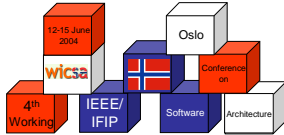


Monday June 14th

Timeslot	Technical Sessions (Store Aud)	Tutorials (Lille Aud and Room 3A)	Working Sessions (Store Aud & Lille Aud)
9:00	Paper Session VI (Methods and Tools)	Tutorial III (TA3) (Lille Aud)	
10:30	Break		
11:00	Paper Session VII (Styles I)	Tutorial III (TA3) (Lille Aud)	
12:30	Lunch		
13:30		Tutorial IV (TA4) (Room 3A)	Working Session WS1 (Store Aud) WS2 (Lille Aud)
15:00	Break		
15:30		Tutorial IV (TA4) (Room 3A)	Working Session WS3 (Store Aud) WS4 (Lille Aud)
17:30			
18:00	Joint Reception with ECOOP by WesternGeco (See Social Program)		

Tuesday June 15th

Timeslot	Technical Sessions (Store Aud)	Tutorials (Lille Aud)	Working Sessions (Store Aud & Lille Aud)
9:00	Keynote II (Haakon Bryni)	Tutorial V (TA5)	
10:00	Paper Session VII (Styles II)		
10:30	Break		
11:00	Paper Session IX (Large Systems)	Tutorial V (TA5)	
12:30	Lunch		
13:30			Working Session WS5 (Store Aud) WS6 (Lille Aud)
15:00	Break		
15:30	Report from working groups		
16:30	Closing		



Program details

Keynotes

■ **Keynote 1: From Objects to Components to Services - A formal framework for service-oriented architectures**

Professor Manfred Broy, Technische Universitaet Muenchen

ABSTRACT

The emerging service oriented architecture technologies, can effectively be specified using principles from object-oriented and component-based computing. Based on a theory of distributed systems that are composed of interacting components we introduce a formal model of services and layered architectures.

A component can provide a total behavior. In contrast, a service is a partial behavior. The functionality of a component can be structured into a family of services. The dependencies and relationships between these services can be made explicit. A layer in a layered architecture is a service with two service interfaces, an import and an export interface. A layered architecture is a stack of several layers. For this model of services and service layers we can support specification and design techniques for layers and layered architectures. Based on this, more specific aspects of layered architectures such as refinement and layer models can be supported.

Prof. Dr. Dr. h.c Manfred Broy is a professor at the Department of Informatics of the Technical University of Munich, Germany. His research interests are software and systems engineering comprising both theoretical and practical aspects. He is leading a research group working in a number of industrial projects that apply mathematically based techniques and to combine practical approaches to software engineering with mathematical rigor. There, the main topics are ad hoc networks, software architectures, componentware, software development processes and graphical description techniques. In his group the CASE tool AutoFocus was developed.

■ **Keynote 2: Software Architectures for Mobile IP systems – future industrial challenges in variability and interoperability**

Dr. Haakon Bryhni, Birdstep Technologies

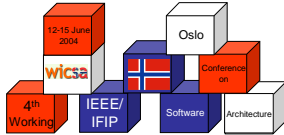
ABSTRACT

Mobile IP systems poses a number of architectural challenges in the areas of variability and interoperability:

- The user may have nomadic and wireless access to business services in the same way as through fixed broadband networks at work and elsewhere.
- The user may have access to the same user experience of services, regardless of type of radio-based network.
- The user's connection with the company's existing VPN solution may be automatically secured when communication is carried through public (wireless) networks.
- The user may have service quality adjusted to the needs and qualities of the relevant networks that the user is connected to in various situations.

The talk will present principal software architectures for mobile IP systems, and discuss future industrial challenges, in particular related to variability and interoperability, quality of service, and to software architecture in general.

Dr. Haakon Bryhni is CTO at Birdstep, a company that is a provider of enabling software technologies for the embedded and wireless marketplace. Their wireless infrastructure



software technologies make nomadic lifestyles a reality, enabling users to retrieve information from any device in any location, over any network infrastructure. Telenor's Nordic research prize of 2003 was awarded to Dr. Haakon Bryhni, He was awarded the prize for his research and development within the Mobile IP standard and for his contribution to the development of seamless communication across different technologies. Bryhni's work comprises aspects like broadband, nomadic services, security and quality, which has enabled a host of new applications.

Paper Sessions

■ Paper Session I (Analysis I)

Session chair: Paola Inverardi, Univerità dell' Aquila, Italy

Title	Author and affiliation
ASAAM: Aspectual Software Architecture Analysis Method	Bedir Tekinerdogan (University of Twente)
Architectural Prototyping: An Approach for Grounding Architectural Design	Jakob Bardram (U of Aarhus), Henrik B Christensen (University of Aarhus), Klaus Marius Hansen (U of Aarhus)
Mining Patterns to Support Software Architecture Evaluation	Liming Zhu (NICTA, UNSW), Muhammad Ali Babar (National ICT Australia Ltd. and University of New South Wales, Australia), Ross Jeffery (National ICT Australia Ltd. and University of New South Wales, Australia)

■ Paper Session II (Analysis II)

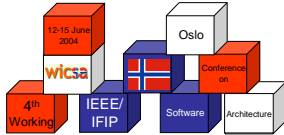
Session chair: Marco Bernardo, University of Urbino, Italy

Title	Author and affiliation
Compositional Generation of Software Architecture Performance QN Models	Antinisca Di Marco (Dipartimento di Informatica), Paola Inverardi (University of L'Aquila, Italy)
Understanding Tradeoffs among Different Architectural Modeling Approaches	Roshanak Roshandel (University of Southern California), Bradley Schmerl (Carnegie Mellon University), Nenad Medvidovic (University of Southern California, USA), David Garlan (Carnegie Mellon University, USA), Dehua Zhang (Carnegie Mellon University)
Modeling Behavioral Patterns of Concurrent Software Architectures Using Petri Nets	Robert Pettit (The Aerospace Corporation), Hassan Gomaa (George Mason University, USA)

■ Paper Session III (Evolution)

Session chair: Valerie Issarny, INRIA, France

Title	Author and affiliation
Support for Evolving Software Architectures in the ArchWare ADL	Ron Morrison, Graham Kirby, Dharini Balasubramaniam, Kath Mickan (University of St Andrews), Flavio Oquendo, Sorano Cimpan (Université de Savoie), Brian Warboys, Bob Snowdon, Mark Greenwood (University of Manchester)
Software Reconfiguration Patterns for Dynamic Evolution of Software Architectures	Hassan Gomaa (George Mason University), Mohamed Hussein (George Mason)



	University)
Component Replacement in a Long-Living Architecture: The 3RDBA Approach	Andre Postma, Pierre America, Jan Gerben Wijnstra (Philips Research, The Netherlands)

■ Paper Session IV (Practice)

Session chair: David Wile, Teknowledge Corp., USA

Title	Author and affiliation
Real World Influences on Software Architecture - Interviews with Industrial System Experts	Goran Mustapic, Anders Wall, Christer Norström, Ivica Crnkovic, Kristian Sandström, Joakim Fröberg, Johan Andersson (Mälardalen University, Sweden)
Performance Optimization of Embedded Software Architecture - A Case Study	Anu Purhonen (VTT Technical Research Centre of Finland)
Symphony: View-Driven Software Architecture Reconstruction	Leon Moonen (Delft Univ. of Technology & CWI, the Netherlands), Arie van Deursen (CWI), Christine Hofmeister (Lehigh University, USA), Rainer Koschke (University of Stuttgart, Germany), Claudio Riva (Nokia Research Center)

■ Paper Session V (Requirements)

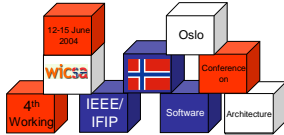
Session chair: Hans van Vliet, Vrije Universiteit, Netherlands

Title	Author and affiliation
Aspects and Constraints for Implementing Configurable Product-Line Architectures	David Lesaint (BT Exact, Intelligent Systems Lab), George Papamargaritis (BTexaCT)
Resolving Requirement Conflicts through Non-Functional Decomposition	Eltjo Poort (LogicaCMG), Peter de With (LogicaCMG, TU/E)
Style-based Refinement of Dynamic Software Architectures	Luciano Baresi (Politecnico di Milano), Reiko Heckel (University of Paderborn), Sebastian Thöne (University of Paderborn), Dániel Varró (Budapest University of Technology and Economics)

■ Paper Session VI (Methods and Tools)

Session chair: Hassan Gomaa, George Mason University, USA

Title	Author and affiliation
Generating Well-Synchronized Multithreaded Programs from Software Architecture Descriptions	Edoardo Bontà (Università di Urbino - Istituto S.T.I)
Systematic Development and Exploration of Service-Oriented Software Architectures	Ingolf Krueger (UCSD), Reena Mathew (Computer Science and Engineering Department, UCSD)
Establishing a Software Architecting Environment	Claudio Riva (Nokia Research Center), Petri Selonen (Tampere University of Technology), Tarja Systä (Tampere University of Technology), Antti-Pekka Tuovinen (Nokia Research Center), Jianli Xu (Nokia Research Center), Yaojin Yang (Nokia Research Center)



■ Paper Session VII (Styles I)

Session chair: Ivica Crnkovic, Mälardalen University

Title	Author and affiliation
Software Architecture for Mobile Distributed Computing	Valerie Issarny (INRIA), Galip-Ferda Tartanoglu (INRIA), Jinshan Liu (INRIA), Francoise Sailhan (INRIA)
Reactive Types for Dataflow-Oriented Software Architectures	Barry Norton (University of Sheffield), Matt Fairtlough (University of Sheffield)
qPACE: An Architectural Style for Trust Management in Decentralized Applications	Justin Erenkrantz (Institute for Software Research), Scott Hendrickson (Institute for Software Research), Girish Suryanarayana (Institute for Software Research), Richard Taylor (Institute for Software Research)

■ Paper Session VIII (Styles II)

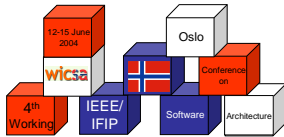
Session chair: Judy Stafford, Tufts University, USA

Title	Author and affiliation
The DiPS+ Software Architecture for Self-healing Protocol Stacks	Sam Michiels (K.U.Leuven), Lieven Desmet (K.U.Leuven)
An Architecture for Coordinating Multiple Self-Management System	Shang-Wen Cheng (Carnegie Mellon University), An-Cheng Huang (Carnegie Mellon University), David Garlan (Carnegie Mellon University), Bradley Schmerl (Carnegie Mellon University), Peter Steenkiste (Carnegie Mellon University)

■ Paper Session IX (Large Systems)

Session chair: Jeff Magee, Imperial College London, UK

Title	Author and affiliation
Software Architecture for Large-Scale, Distributed, Data-Intensive Systems	Chris Mattmann (Jet Propulsion Laboratory), Daniel Crichton (Jet Propulsion Laboratory), J. S. Hughes (Jet Propulsion Laboratory), Sean Kelly (Jet Propulsion Laboratory), Paul Ramirez (Jet Propulsion Laboratory)
A Multi-Layered Architecture Description Framework for Enterprise Systems	Ananth Chandramouli (Infosys Technologies Ltd), Santonu Sarkar (Infosys Technologies Ltd), Riaz Kapadia (Infosys Technologies Ltd), Venugopal Subbarao (Infosys Technologies Ltd), Eric Stanley (Bank of America)



Working Sessions

■ Working Session 1 (WS1) – Evolving Architectures I

Session chair: Eoin Woods (Artechra Limited, UK), Hans van Vliet (Vrije Universiteit, Netherlands)

Title	Author and affiliation
A Scenario-Driven Approach for Value, Risk and Cost Analysis in System Architecting for Innovation	Mugurel T. Ionita (TU/e), Pierre America (Philips Research, The Netherlands), Dieter K. Hammer (Technical University Eindhoven, The Netherlands), Henk Obbink (Philips Research, The Netherlands), Jos J. M. Trienekens (Technical University Eindhoven, The Netherlands)
Experience Using an Expert System to Assist an Architect in Designing for Modifiability	Felix Bachmann (SEI), Len Bass (SEI), Mark Klein (SEI)
An Externalized Infrastructure for Self-Healing Systems.	David Wile (Teknowledge Corp., USA), Alexander Egyed (Teknowledge Corporation)

■ Working Session 2 (WS2) – Product Lines

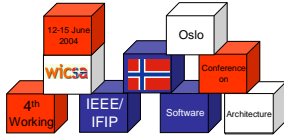
Session chairs: Valerie Issarny (INRIA, France), Clemens Szyperski (Microsoft, USA)

Title	Author and affiliation
Applying Patterns to Develop a Product Line Architecture for Analytical Software	Jürgen Meister (OFFIS), Ralf Reussner (University of Oldenburg), Martin Rohde (OFFIS)
Evaluating the Portability and Maintainability of Software Product Family Architecture: Terminal Software Case Study	Mari Matinlassi (VTT Technical Research Centre of Finland)

■ Working Session 3 (WS3) – Evolving Architectures II

Session chairs: Paola Inverardi (Univerità dell' Aquila, Italy), David Wile (Teknowledge Corp., USA)

Title	Author and affiliation
Attribute-Based Refinement of Software Architectures	Vincent Englebert (University of Namur)
An Architectural Approach to Mobility - The Handover Case Study	Cristóvão Oliveira (FCT New University Lisbon), Michel Wermelinger (Universidade Nova de Lisboa, Portugal), José Luíz Fiadeiro (University of Leicester), Antónia Lopes (Universidade de Lisboa, Portugal)



■ Working Session 4 (WS4) – Components and Viewpoints

Session chair: Michael Stal (Siemens Corporate Technology, Germany), Ivica Crnkovic (Mälardalen University, Sweden)

Title	Author and affiliation
Heuristics for the Transition from Analysis to Software Architecture	Jorge Perez-Martinez (Universidad Politecnica de Madrid), Almudena Sierra-Alonso (Universidad Autonoma de Madrid)
The COMQUAD Component Container Architecture	Steffen Goebel (TU Dresden), Christoph Pohl (TU Dresden), Ronald Aigner (TU Dresden), Martin Pohlack (TU Dresden), Simone Roettger (TU Dresden), Steffen Zschaler (TU Dresden)

■ Working Session 5 (WS5) – Real time systems

Session chair: Pierre America (Philips Research, Netherlands), Patricia Lago (Vrije Universiteit, Netherlands)

Title	Author and affiliation
A Network Architectural Style for Real-time Systems: NaSr	Rabih Bashroush (Queens Univesrity Belfast), Ivor Spence (Queens University of Belfast), Peter Kilpatrick (Queens University of Belfast), John Brown (Queens University of Belfast)
Real-Time Collaboration in Activity Based Architectures	Jakob Bardram (U of Aarhus), Henrik B Christensen (University of Aarhus)

■ Working Session 6 (WS6) – Wiki WAN Party wrap up

Title	Author and affiliation
Capturing Experience in Software Architecture Best Practices	Shang-Wen Cheng (Carnegie Mellon University) Robert L. Nord (Software Engineering Institute) Judith Stafford (Tufts University)

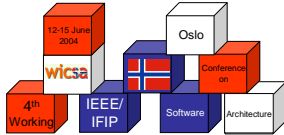
Tutorials

■ TA1 - Architecture-centric Software Engineering

Author: Jan Bosch, University of Groningen, Netherlands

ABSTRACT

Many software organizations are in the process of moving from project-centric to architecture-centric engineering of software. The two typical reasons for this move are (1) the architecture allows for a clear break-down in parts whereas a project-centric approach easily leads to a monolithic system and (2) the organization is interested in exploiting the commonalities between its products or systems. This tutorial addresses this development by providing an overview and in depth treatment of the issues around architecture-centric engineering of software. Topics include software architecture design in the presence of existing components and infrastructure (top-down versus bottom-up), architecture evaluation and assessment, software artefact variability management, software product lines and the role of the software architect. These topics are, in addition to the technical perspective, discussed from process



and organizational viewpoints. The topics are extensively illustrated by examples and experiences from many industrial cases.

It is assumed that the participant has some experience with industrial software development and has a general awareness of the increased importance of software variability.

■ TA 2 - Software Architectures for Safe and Secure Systems

Author Jan Jürjens, TU Munich, Germany

ABSTRACT

The high quality development of critical systems (be it dependable, security-critical, real-time, or performance-critical systems) is difficult. Many critical systems are developed, deployed, and used that do not satisfy their criticality requirements, sometimes with spectacular failures.

Part of the difficulty of critical systems development is that correctness is often in conflict with cost. Where thorough methods of system design pose high cost through personnel training and use, they are all too often avoided. UML offers an unprecedented opportunity for high-quality critical systems development that is feasible in an industrial context, because a large number of developers is trained in UML, UML is relatively precisely defined, and a number of tools are developed to assist its use. The tutorial aims to give background knowledge on using UML for critical systems development and to contribute to overcoming some challenges in this context including

- Adaptation to critical system application domains.
- Providing advanced tool-support for critical systems
- Development with UML – using various extensions, such as UML-RT, UMLsec, UMLsafe.

It includes a demo of a tool supporting critical systems analysis with UML.

The content is identical to ECOOP tutorial TS2 (Monday).

The tutorial addresses practitioners (i.e. system and software developers, architects, and technical managers) and researchers interested in critical systems development using UML (in particular for dependable, security-critical, or real-time systems). Basic knowledge of object-oriented software and UML is assumed. No specific knowledge of the various application domains is assumed.

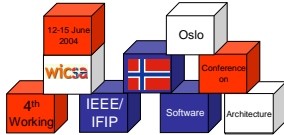
■ TA 3 - Software Variability Management

Author: Jan Bosch, University of Groningen, Netherlands

ABSTRACT

In a variety of approaches to software development, software artifacts are used in multiple contexts or for various purposes. The differences lead to so-called variation points in the software artifact. During recent years, the amount of variability supported by a software artifact is growing considerably and its management is developing as a main challenge in the development, usage and evolution of software artifacts. Examples of approaches where the management of variability is evolving as a challenge include software product families, component-based software development, object-oriented frameworks and configurable software products such as enterprise resource planning systems.

The tutorial presents insights gained, techniques developed and lessons learned in the European IST project ConIPF (Configuration in Industrial Product Families) and in other research performed by the software engineering research group at the University of Groningen. The tutorial first establishes the importance of software variability management, defines the concept of variability, discusses notational and visualization aspects, assessment of software artifacts for variability, design of architectures and components for variability, usage of variation points while configuring instantiated software artefacts and, finally, some advanced issues including variation versus composition.



It is assumed that the participant has some experience with industrial software development and has a general awareness of the increased importance of software variability.

■ TA 4 - Software Architecture Documentation with the Unified Modeling Language (UML)

Author: Paul Clements, Robert Nord, Software Engineering Institute, USA, Judith Stafford, Tufts University, USA

ABSTRACT

Software architecture has become a widely-accepted conceptual basis for the development of non-trivial software in all application areas and by organizations of all sizes. Effectively documenting an architecture is as important as crafting it, because if the architecture is not understood, or worse, misunderstood, it cannot meet its goals as the unifying vision for software development. Development-based architecture strategies, such as Rational's Unified Process, stop short of prescribing documentation standards. The Unified Modeling Language (UML) provides a notational mechanism for describing certain architectural elements and relations, but comes up short when it comes to representing some standard architectural constructs.

There is a pressing need for a practical approach to software architecture documentation. This tutorial presents such an approach based on the well-known concept of views. We present the information in the context of prevailing prescriptive models for architecture, including the Unified Process and the upcoming UML 2.0, which promises to address architecture.

Participants should have some knowledge of the Unified Modeling Language and experience with descriptions of large software systems.

■ TA 5 - Implementing Domain specific modelling languages for Product Families

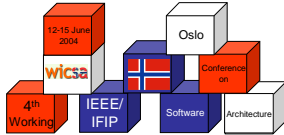
Author: Juha-Pekka Tolvanen, MetaCase, Finland

ABSTRACT

Domain-Specific Modeling (DSM) provides a viable solution for improving development productivity by raising the level of abstraction beyond coding. With DSM, the models are made up of elements representing concepts that are part of the domain world, not the code world (like e.g. in UML). These languages follow domain abstractions and semantics, allowing developers to perceive themselves as working directly with domain concepts. In a fair number of cases - most often product family development - final products can be automatically generated from these high-level specifications.

This tutorial introduces DSM by emphasizing the differences to modeling languages originating from the semantics of programming languages. This is followed by examples from various fields of software product development, with a special focus on product families. The main part of the tutorial addresses the guidelines for implementing DSM for various application domains: how to identify the necessary language constructs; what options are available for code generation; and what are the industry experiences.

Attendees should have significant software development experience, not necessarily OO, must have used at least one methodology and design/generation tool.

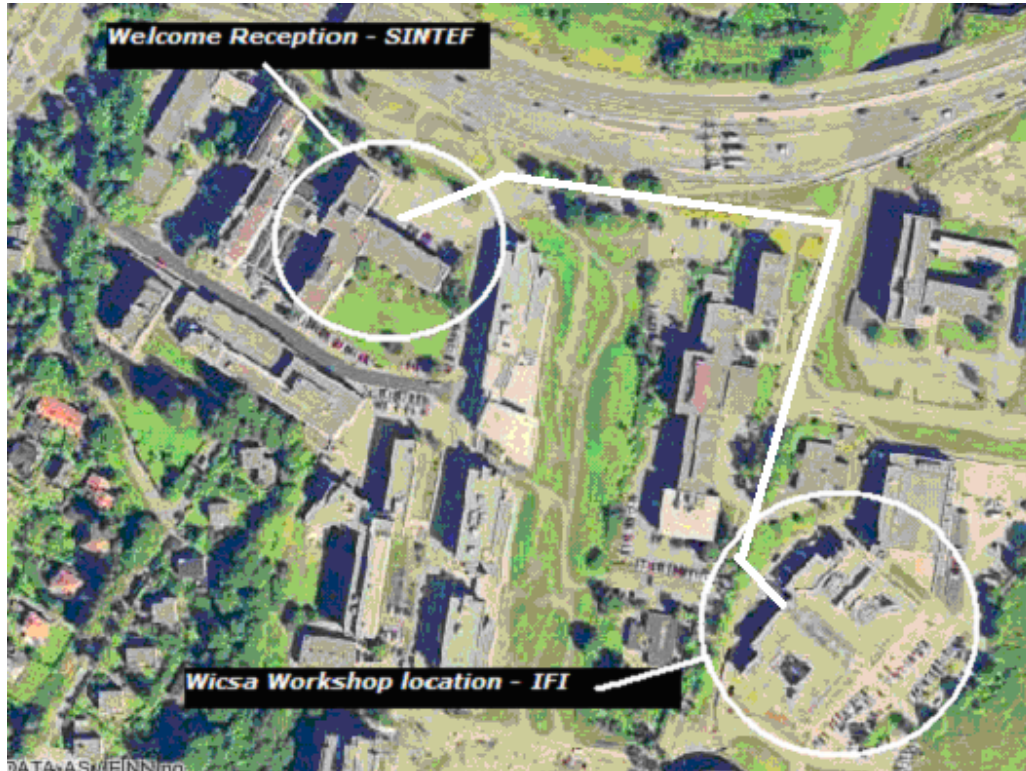


Social program

■ **Welcome Reception** (Saturday June 12th)

The welcome reception will be arranged at SINTEF, which is located near by the Conference Location. See the map below and the map in the 'ECOOP joint reception' section.

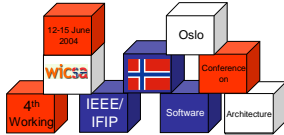
From IFI, exit from the north-western exit (third floor), walk up the stairs straight ahead and take right in the street 'Gaustadalleen'. Follow this towards the bridge and take left just before the bridge. Walk up the walking path 200 meters to SINTEF.



■ **Boat Cruise w. Norwegian summer meal – Prawns, beer, wine** (Sunday June 13th)

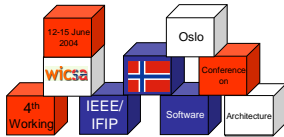
The Boat Trip will leave from 'Rådhusbrygga' no. 3 (Town hall pier) Sunday 13th at 1900. The piers are located between 'Aker Brygge' in the west and 'Akershus' fortress in the east. The map below shows where this is.

Voucher: You will receive a voucher during registration, which you should bring as a ticket for the boat cruise. After boarding, you will receive two drink vouchers in exchange for the ticket.



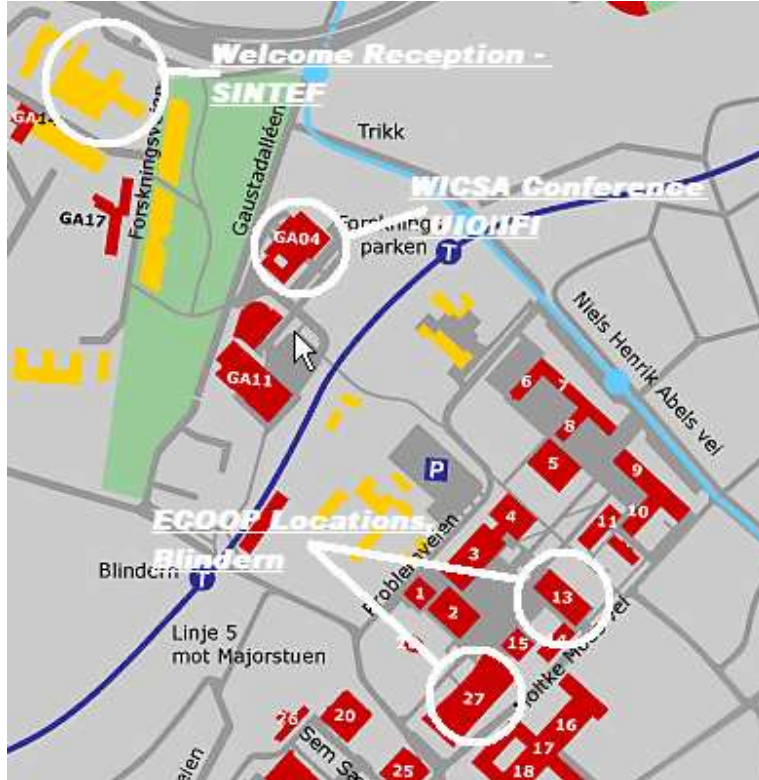
The name of the boat is S/S Johanna, which is a prominent sailing ship, made in 1892. She was originally named 'Big Johanna', because she was the largest and finest sailing ship sailing between 'Bergen' and Northern Norway. (See the picture below.)





Joint Reception with ECOOP (Monday June 14th)

The joint reception with ECOOP will be arranged at the ECOOP Conference Site, near by the WICSA Conference Site (5 min. walk). See the map below. It starts at 17:30.



At 17:30 there will be an opening of the memorial exhibition in honour of Ole-Johan Dahl, Edsger W. Dijkstra and Kristen Nygaard.



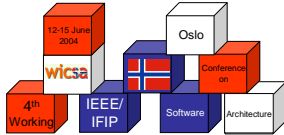
Edsger W. Dijkstra
(11 May 1930–6 Aug 2002)



Kristen Nygaard
(27 Aug 1926–10 Aug 2002)



Ole-Johan Dahl
(12 Oct 1931–29 Jun 2002)



Organisation



General chair

Jan Bosch, Jan.Bosch@cs.rug.nl, University of Groningen, The Netherlands



Program co-chairs

Jeff Magee, jnm@doc.ic.ac.uk, Imperial College London, United Kingdom



Clemens Szyperski, cszypers@exchange.microsoft.com, Microsoft Research, USA



Workshop chair

Christine Hofmeister, hofmeister@cse.lehigh.edu, Lehigh University, USA



Tutorial chair

Michael Stal, Michael@stal.de, Siemens, Germany



publicity chair

Frank van der Linden, frank.van.der.linden@philips.com, Philips Medical Systems, The Netherlands



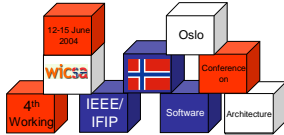
Local organisation

Arne Berre, Arne.J.Berre@sintef.no, SINTEF, Norway



Web chair

Eelke Folmer, mail@eelke.com, University of Groningen, The Netherlands



Program Committee

Name	Affiliation
Jonathan Aldrich	Carnegie Mellon University, USA
Don Batory	University of Texas at Austin, USA
Marco Bernardo	University of Urbino, Italy
Paul Clements	Software Engineering Institute, USA
Ivica Crnkovic	Mälardalen University, Sweden
David Garlan	Carnegie Mellon University, USA
Hassan Gomaa	George Mason University, USA
Christine Hofmeister	Lehigh University, USA
Andre van der Hoek	University of California, Irvine, USA
Valerie Issarny	INRIA, France
Paola Iverardi	University of L'Aquila, Italy
Rick Kazman	Software Engineering Institute, USA
Nenad Medvidovic	University of Southern California, USA
Jeff Kramer	Imperial College London, UK
Amy Murphy	University of Rochester, USA
Rob van Ommering	Philips Research, The Netherlands
Dewayne Perry	University of Texas, USA
Mary Shaw	Carnegie Mellon University, USA
Heinz Schmidt	Monash University, USA
Judy Stafford	Tufts University, USA
Michael Stal	Siemens, Germany
Will Tracz	Lockheed Martin Mission Systems, USA
Hans van Vliet	Vrije Universiteit, The Netherlands
Michel Wermelinger	Universidade Nova de Lisboa, Portugal
David Wile	Teknowledge Corp, USA
Alexander L. Wolf	University of Colorado, USA