

## **TOOLS Europe 2010**

48th International Conference on Objects,  
Models, Components, Patterns

## **ICMT 2010**

3rd International Conference on Model  
Transformation

## **SC 2010**

9th International Conference on Software  
Composition

## **TAP 2010**

4th International Conference on Tests and Proofs

# **TOOLS 2010**

# **Conference Programs**

**Málaga, Spain**  
**28 June – 2 July 2010**

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# Welcome to TOOLS 2010 Federated Conferences

It is our pleasure to welcome you to TOOLS 2010 Federated Conferences, which this year take place in Málaga, Spain, from Monday June 28 to Friday July 2. The conferences will be held at the premises of the School of Informatics of the University of Málaga.

The TOOLS series of conferences is devoted to all modern approaches to Software Development. This will be the third year that TOOLS happens as a federated event, bringing together a set of conferences that encompass a broad range of topics related to Software Development, while keeping the traditional TOOLS spirit of technical excellence, practicality, combination of theory and applications, and reliance on the best experts from academia and industry.

The 2010 edition is a confederation of four major annual conferences (TOOLS Europe, ICMT, SC and TAP). In addition, a number of satellite Workshops will be held in conjunction with the main conferences, making TOOLS the premier forum for academic and industrial research working on areas related to Software Development, and also the perfect venue for exchanging ideas and experiences around these topics.

The TOOLS 2010 conferences are organized by the Department of Computer Science of the University of Málaga, in co-operation with the ETH, Zurich. The conference proceedings are all published by Springer under the LNCS series.

In addition, a comprehensive social program has been prepared to help all the participants enjoy the visit as much as possible, and to foster friendly collaboration among the different communities.

This conference would not have been possible without the help and dedication of many people, in particular the Chairs of the four Conferences, the members of the Program Committees that assembled the technical programs, the members of the Organizing Committee that worked for more than one year to make the conference happen, the Workshop Organizers, and of course to this year's Sponsors.

We would like to warmly welcome you to Málaga for this TOOLS 2010 experience, and hope you have a very fruitful and productive conference.

*Bertrand Meyer*  
*Chair*  
*TOOLS Conference Series*

*Antonio Vallecillo*  
*Organizing Chair*  
*TOOLS 2010 Federated Conferences*

## Welcome to TOOLS Europe 2010

It is a pleasure to welcome you to the 48th TOOLS Europe Conference (TOOLS Europe 2010) here in Málaga. The conference continues to serve a broad object-oriented community with a technical program spanning theory and practice. The program is rounded out with keynotes by Oege De Moor, Ivar Jacobson and Bertrand Meyer, and a banquet speech by Jean Bézivin. The proceedings include 16 papers selected from 60 submissions. The papers were reviewed in a single-blind process with 4-7 reviews per paper. The PC discussions followed Oscar Nierstrasz' Champion pattern. PC papers had additional reviews and were held at a higher standard. For the first time this year, TOOLS had a PC meeting which combined in-person discussions and electronic presence.

TOOLS owes its success to the efforts of many. I would like to thank the authors for their submissions, the program committee members and their subreviewers for their reviews, our general chair Bertrand Meyer, Antonio Vallecillo for the overall organization; Richard van de Stadt for his invaluable help with Cyberchair, and Bertrand Meyer and Peter Müller for hosting the PC meeting at the ETHZ.

*Jan Vitek*  
TOOLS Europe 2010 Program Chair

## Welcome to ICMT 2010

Model transformations are the glue that tie modelling activities together. If you've used modelling in anger then, whether you know it or not, you've used model transformations. They come in all shapes and sizes from moving models between different tools to generating implementations. Model transformations have humble beginnings—at one point, not long ago, it was said by many 'in the know' that the way forward in model transformations was to use XSLT. That this idea now raises a wry smile shows how far the model transformation community has come in a short time. Where once model transformations were hacked together in a variety of unsuitable languages, we now have a number of powerful, dedicated languages and theories at our disposal.

Since 2008, the ICMT conference series has played a huge part in advancing the subject, and this third edition was no different. The theories and languages presented at ICMT have allowed principled model transformations to play an ever greater part in real systems. Of course there is still much more to do: we need our model transformations, languages, and theories to scale further, allow greater expressivity, be more flexible, and aid reusability; and we lack empirically backed studies of model transformations in use. Doubtless you can think of other gaps. Yet, though some real-world challenges lie just beyond our reach, each year sees once-daunting problems conquered. Much of that progress is now driven by ICMT, and this years edition shows how model transformations are increasingly being used in previously unfamiliar areas.

ICMT is the premier venue for model transformations, and many of the leading thinkers are present. We encourage you to attend ICMT's talks, ask questions, and interact with authors and other attendees during breaks and social events. The ICMT community is friendly, welcoming, and thoughtful — we hope you will play your part in it too!

*Martin Gogolla*  
ICMT 2010 Conference Chair

*Laurence Tratt*  
ICMT 2010 Program Chair

## Welcome to SC 2010

SC'2010 is the ninth edition of the International Conference on Software Composition (SC). The goal of SC is to advance the state of the research on modularity, and reuse in the context of software development based on components, services, features or models. Software composition is becoming more and more important as innovation in software engineering shifts from the development of individual components to their reuse and recombination in novel ways.

To this end, for the 2010 edition, researchers were solicited to contribute on topics such as component adaptation techniques, composition languages, modeling, as well as emerging composition techniques such as aspect-oriented programming, service-oriented architectures, and mashups. In line with previous editions of SC, contributions were sought focusing on both theory and practice, with a particular interest in efforts relating them.

*Benoit Baudry*  
*Eric Wohlstadter*  
SC 2010 Program Chairs

## Welcome to TAP 2010

TAP 2010 is the fourth event of an ongoing series of conferences devoted to the convergence of proofs and tests. In the past, proving and testing have been seen as very different and even competing techniques. Proving people would say: If correctness is proved, what do we need tests for? Testers, on the other hand, would claim that proving is too limited in applicability and testing is the only true path to correctness. Of course, both have a point, but to quote Ed Brinksma from his 2009 keynote at the Dutch Testing Day and Testcom/FATES:

*“Who would want to fly in an airplane with software proved correct, but not tested?”*

Indeed, the true power lies in the combination of both approaches. Today, modern test systems rely on techniques deeply rooted in formal proof techniques, and testing techniques make it possible to apply proof techniques where there was no possibility previously.

In a time when even mainstream software engineering conferences start featuring papers with both “testing” and “proving” in their titles, we are clearly on the verge of a new age where testing and proving are not competing but finally accepted as complementary techniques. Albeit, we are not quite there yet, and so the TAP conferences aim to provide a forum for researchers working on the converging topics, and to raise general awareness of this convergence. The goal of TAP is to provide a forum for the cross-fertilization of ideas and approaches from the testing and proving communities.

TAP 2010 will feature 12 research presentations divided in four sessions: Testing Proofs, Test Generation using Proof Techniques, Theorem Proving and Testing, and Abstraction. Furthermore, a session will be shared with TOOLS Europe 2010. The program will include the keynotes by Mike Ernst (University of Washington) and Nachi Naggappan (Microsoft Research); In sum, this makes a terrific program, and we hope that everyone will enjoy the conference.

*Gordon Fraser*  
*Angelo Gargantini*  
TAP 2010 Program Chairs

# Organization

## General Chairs

- **Conference Series chair:** Bertrand Meyer, ETH Zurich and Eiffel Software, Switzerland
- **Organizing chair:** Antonio Vallecillo, Universidad de Málaga

## TOOLS Europe 2010

- **Conference chair:** Bertrand Meyer, ETH Zurich and Eiffel Software, Switzerland
- **PC chair:** Jan Vitek, Purdue University, US

## Software Composition 2010

- **Conference chair:** Judith Bishop, Microsoft, US
- **PC co-chairs:** Benoit Baudry, IRISA, France, and Eric Wohlstadter, UBC, Canada

## ICMT 2010

- **Conference chair:** Martin Gogolla, University of Bremen, Germany
- **PC chair:** Laurence Tratt, Bournemouth University, UK

## TAP 2010

- **Conference chairs:** Yuri Gurevich, Microsoft Research, USA, and Bertrand Meyer, ETH Zürich and Eiffel Software, Switzerland
- **PC co-chairs:** Angelo Gargantini, University of Bergamo, Italy and Gordon Fraser, Saarland University, Germany

## Local organizing committee:

- **Organizing chair:** Antonio Vallecillo, Universidad de Málaga
- **Workshop chair:** Francisco Durán, Universidad de Málaga
- **Registration chair:** Carlos Canal, Universidad de Málaga
- **Social program chair:** José M. Álvarez, Universidad de Málaga
- **Finance chair:** Ernesto Pimentel, Universidad de Málaga
- **Organizing team:** José Antonio Martín, Universidad de Málaga  
Jose Bautista, Universidad de Málaga  
Manuel F. Bertoa, Universidad de Málaga  
Fernando López, Universidad de Málaga  
Lola López, Universidad de Málaga  
Ana Doherty, Universidad de Málaga  
Nathalie Moreno, Universidad de Málaga  
Juan Jesús Farfán, Universidad de Málaga  
Eduardo Rivera, Universidad de Málaga  
Daniel Ruiz, Universidad de Málaga  
Javier Troya, Universidad de Málaga

## About Málaga



Malaga is located in the South of Spain on the Mediterranean coast in the community of Andalusia. Its province lies between Granada to the East, Cadiz to the West and Cordoba and Seville to the North. Spain's fifth-largest city with a population of about 650,000, Malaga offers an interesting mixture of a cosmopolitan business center and a traditional Andalusian city with a relaxed atmosphere and joyful people.

Malaga has a long and interesting history dating back to its foundation as a Phoenician town 3000 years ago. Thanks to its strategic position next to the Mediterranean Sea, this province has long been a highly disputed territory; in 550 BC the Carthaginians took control from the Phoenicians and in 218 BC the area was invaded by the Romans. The large Roman theatre located in the centre of the city stands as a testament to this period in the city's history. The Moorish rule of Southern Spain (which lasted from 700 AD until the Christian re-conquest in the late 15th Century) also left behind several interesting historical sites - among them the 15th Century Gibralfaro castle and the Alcazaba fortress built in the 11th Century.

In modern times, Malaga has gained international fame for its pleasant year-round weather, which boasts around 320 days of sun per year. Since the 1970's the region has become a preferred tourist destination for thousands of North Europeans who flock each year to the surrounding towns of Marbella, Torremolinos and Benalmádena. Other popular destinations in the Costa del Sol (which is home to a thriving and diverse expatriate community) can also be found just 20 minutes west of Malaga's city center.

Apart from being a popular tourist destination, Malaga is also an important business center for Southern Spain. The city's airport and harbor are among the busiest in the country, and the newly built Technology Park and International Congress Centre in the outskirts of the city have attracted large national and international companies to the city.

Malaga is also a city rich in culture; apart from the numerous historical monuments that grace its streets and plazas, it is home to some of Spain's most interesting museums and theatres. The new Picasso Museum is without doubt the most important of these museums and stands as a fitting tribute to Malaga's most famous native son.

## Conference Venue

All events related to TOOLS 2010 Federated Conferences will take place at the premises of the School of Informatics (**ETSI Informática**) of the University of Málaga, located in the Campus de Teatinos. See <http://bit.ly/cbJX8t> for detailed information about the location of the campus and how to reach it.



**Address:** ETSI Informática  
Campus Teatinos  
Bulevar Louis Pasteur, 35.  
29071 - Málaga

The locations of the individual conferences and workshops are detailed on their corresponding pages in this booklet.



## Transportation: From the airport to the city centre

### By train

The train station is outside the airport building. You should take the lift in the Arrivals Hall up the Departures Hall, and then walk to the outside, through the upper level parking area, going over the footbridge, which spans the road below. Follow the signs for the train station. Look out for this sign above the station:



It is important to know that you must have a ticket before you board the train, or you will be liable for a fine of around 10 times the cost of the fare. There is an automated ticket machine at the airport train station, which works with Euro coins, bank notes (up to €20), and credit cards. The price of a single is around 1,20€ (working days and weekend fares are slightly different).

First train is at 07:03, then every 30 min. Last train at 00.03. Journey time 15 minutes. Take the direction Málaga (not Fuengirola), until station “Málaga Renfe – Vialia” if you are staying in hotel Tryp Alameda, or until terminus station “Málaga Centro – Alameda” if you are staying in any of the other hotels.

### By bus

The Bus stop is located just outside the main arrivals hall. It takes you to Malaga downtown (“El Parque”, very close to where the hotels are).

- From the Airport to Malaga bus and train station every 1/2 hour: First Bus: 07.00.  
Last Bus: 24.00
- From Malaga bus and train station to the Airport every 1/2 hour: First Bus: 06.30.  
Last Bus: 23.30

The cost is 1,20 €. Note that bus cards are not valid for the trip to the airport. You should buy a separate ticket.

### By Taxi

A taxi from the airport to the city centre may cost you between 20 and 25 Eur. Fees are a bit more expensive during the week-end and at night (between 10pm and 6am).

## **Transportation: From the city centre to the conference venue**

### **By bus**

As part of your delegate package you will be given a bus map and a bus card, valid for the whole week of the conference (Monday 28 to Friday 2). The bus card grants you an unlimited number of trips in all city buses.

There are several lines that take you from Málaga city centre to the University, but probably the best one is #20. Buses run every 10-15 min. and the duration of the trip is between 15 and 20 min. depending on the traffic.

Coming from Málaga city centre you can take it from the Alameda Ave, very close to where the recommended conference hotels are. The final stop is "Hospital Clínico", where you should get off to go to the conference venue (the hospital is in front of the ETSI Informática). The ETSI Informática is 50m. away from the bus stop, you will see the building when you get off the bus.

Once you arrive at the ETSI Informática, follow the signs for TOOLS 2010.

Bus#20 is also the bus you can take to go back to the city centre. Be careful not mistaking it with bus #22, because they share stops but it serves a different part of the city. The number of the bus lines are shown both in the displays in the front and the side of the buses.

When you do not need your bus card anymore (for instance, if you are leaving to the airport directly from the University), please return it to the hotel registration desk, since cards can be recycled.

### **By taxi**

An alternative option for going to the conference venue is by taxi. It costs around 8 Euro, and the trip duration is around 10 minutes. There are taxi ranks at the door of most hotels, or very close to them. To go from the conference venue back to the city centre or directly to the airport by taxi, you can either ask somebody at the TOOLS registration desk to order you a taxi, or walk to the taxi rank at the Hospital Clínico (150 m. away from the conference venue).

The duration of the trip by taxi from the ETSI Informática to the city centre is around 10 minutes (it goes up to 15 min. in the afternoon) and around 15-20 minutes to go to the airport. From the city centre to the airport you should allow 20 to 25 minutes to be on the safe side (trip fare is around 20 euros).

**IMPORTANT:** Please try to be at the airport at least 90 minutes before your flight departure (60 if it is a domestic flight).

## Other useful Information

### Registration Desk

The **registration desk** will be open every day between 28 June and 2 July, from 8:30 to 9:30 and during the morning coffee-breaks (11:00-11:30). If you need to register outside these times, or need any other assistance, please ask somebody from the local organization or to any student volunteer.

### Badges

You are kindly requested to wear your name badge at all times. Admittance to the sessions, coffee breaks, lunches, and the evening program is allowed only to badge/pass holders.

### Lunch

Lunch will be served every day between 13:00 and 14:30 in the Cafeteria, situated on the lower ground floor of the School. Vegetarian meals will be available. You will receive coupons for the lunches as part of the registration package. Should you require any special food or have any particular dietary restrictions, please indicate them when registering for the conference.

### Coffee Breaks

Every day there will be two coffee breaks, one in the morning (11:00-11:30) and one in the afternoon (16:00-16:30). The coffee breaks will be served in the Cafeteria.

### Weather

Málaga is the capital of the Costa del Sol (the Sun Coast), so warm temperatures are expected during the conference, ranging from 25C to 30C (77F-86F). Bring your swimming suit with you (for your free time!), and of course do not forget some sun cream protection. There are beaches in Málaga close to the hotels (walking through “el Parque” will take you to the nearest ones). From there you can also go to the “Pedregalejo” nicer beaches either by walking (3 km) or you can take bus line #11 (destination “Pedregalejo”). Alternatively, you can go to one of the more beautiful nearby beaches along the coast by taking a bus from the Central Bus station to Torremolinos, Fuengirola or Marbella.

### Golf, Jogging and other sport activities

Málaga is also called the “Costa del Golf” because of its excellent golf courses. You can play all year round in any of the more than 20 golf courses available in the province, many of them less than 30 min. away from Malaga city (<http://www.malagagolf.com/> <http://www.costadelsolcourses.com/>)

Jogging has become a very popular sport in Málaga. There are more than 20 kilometers of jogging tracks along the seaside. The TOOLS 2010 team will organize jogs in the morning (at different paces), departing from the Malaga Palacio hotel lobby, Tuesday 29 to Friday 2 at 7:15. Join us for a healthy start every day!

You can also exercise yourself at the University Sport Centre, which is 200 m. from the conference venue.

## Useful telephone numbers

Local police: 092

National police: 091

Health service: 061

Airports: 952 048 804 and Iberia 902 400 500

RENFE (trains): 952 360 202

Taxis: 952 33 33 33 / 952 048 614

Málaga Tourist Office: 952 604 410

## Hotels:

Málaga Palacio: (+34) 952 22 51 85

Tryp Alameda: (+34) 952 36 80 20

Don Curro: (+34) 952 22 72 00

Petit Palace: (+34) 952 22 21 32

## Problems

Organizational details during the conference will be dealt with at the registration desk. Should you need further assistance, do not hesitate to contact any member of the organization, who will try to help in any way they can.

Outside the conference hours, or if you are away from the conference venue, please dial +34 678998465 for contacting somebody from the conference organization.

Please do not hesitate to ask for help in need of assistance. Málaga is a tourist city used to dealing with tourists and their problems, and normally very friendly to foreigners.



## Social Program

For the participants of the TOOLS 2010 Federated Conferences a wide variety of social events have been planned, so that they can meet in a friendly and informal environment. Participants will have the opportunity to visit and explore some of the most interesting and historical parts of the host city, Málaga. The scheduled events are:

### **Monday, 28 June. Welcome Cocktail – Málaga Town Hall @20:30**

A welcome cocktail and finger buffet will be served in the Town Hall. This historic building is in the centre of Málaga main Park ("El Parque"), 500m. away from the AC Málaga hotel. It was built in the early twentieth century, between 1911 and 1919, on an area of land which was originally covered by the sea. It is in a beautiful spot, close to the city harbor and surrounded by the Pedro Luis Alonso and the Puerta Oscura Gardens. It is also positioned at the foot of the old Moorish castle (the Alcazaba) and also the Gibralfaro castle.



Málaga Town Hall: El salón de los espejos.

### **Tuesday, 29 June. Night on the beach – Rest. "Gutierrez Playa" @21:15**

Perhaps one of the best known dishes of the local cuisine is the delicious fried fish, caught fresh daily. This outing will be a very informal dinner in a typical beach restaurant, where a variety of local fried fish and seafood will be served, including the famous "espetos". These are sardines, skewered on a stick, grilled over a fire, in an old fisherman's boat filled with sand, right on the beach.

Everyone is invited to bring their towels and swimming gear so that they can enjoy an after dinner swim in the sea.

Restaurant "**Gutierrez Playa**"

Paseo Marítimo Antonio Banderas, Local 6. 29002 Málaga.

Tel. 952118908, 619 03 70 74

<http://www.gutierrezplaya.es/>

The restaurant is 3 Km away from the hotels, in the Eastern beaches of the city. Check its location at <http://bit.ly/a7RIRK>. If you prefer to take a bus, line#16 takes you there.



### Wednesday, 30 June. Gala banquet. Castillo Santa Catalina @21:15

The gala banquet will be served in a wonderful setting, the **Castle of Santa Catalina** fortress (<http://bit.ly/9ni9sy>), which was originally converted into a private palace for one of the wealthiest local families and later converted for use as a top quality restaurant and hotel. The dinner will be served in the beautiful gardens which have outstanding views over the city and the bay of Málaga.



Buses will depart from the AC Malaga Palacio hotel at 20:45. The cocktail prior to the dinner will start at 21:15. The Castle is 2,8 Km away from the AC Málaga Palacio hotel (<http://bit.ly/b7cH73>), so you can also walk if you wish. The exact address is:

**Castillo Santa Catalina.** Calle de Ramos Carrión, 38. (29016) Málaga.  
Tel. 952212700.

## Thursday, 1 July. City tour and "tapas" route @20:00

Thursday's events are oriented to help the participants to get to know the city in two different ways. First, a guided walk around the city center followed by a "gastronomic" tour. The guided tour will depart from the AC Málaga Palacio at 20:30 and will take participants through the most representative and historical streets and buildings of Málaga. After this, TOOLS 2010 attendees will have the opportunity to taste a variety of well known tapas (small, tasty snacks). A selection of local restaurants has been chosen so that participants can walk freely and enjoy the local cuisine.



A map with a list of the restaurants on the tour will be given to the participants, along with some vouchers which can be used to pay for some food in those restaurants. Some local tour guides will be available to take the visitors around, but participants are also free to explore on their own and follow their own route based on the restaurants listed.

### Additional social activities

An extensive social program has been arranged during the conference so that those attending the conference will enjoy their visit to Málaga as much as possible. Free activities for companions are available as well, since this can be an excellent opportunity to bring your partner and/or family and to enjoy the trip to Spain.

Should you need further assistance on this matter, apart from the excursions and trips already organized, do not hesitate to contact us.

## Technical Information for Presentations

All rooms in the E.T.S.I. Informática are equipped with a digital projector. The digital projector has a VGA connector on the speaker's desk and should work with a resolution of 1024x768 or below. Although there will be PCs in every room, we recommend all speakers to use their own laptop to avoid potential incompatibility problems with the presentation software or the installed fonts in the computer.

### Internet Access

Wireless access should be available everywhere in the building. You will need an IEEE 802.11b compatible wireless adapter. Network configuration uses DHCP. Authentication is with captive portal. To access the network the following information will be provided during the conference:

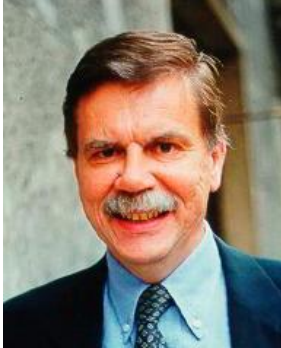
- **SSID:**
- **User name:**
- **Password:**

This connection does not block ports or filter traffic. You will have full access to the Internet, including Web, Telnet, IMAP, IMAPS and SSH. **Be advised that the wireless traffic is not encrypted.**



## Keynote speakers

Monday 28 June (9:30h, Auditorium)



**Stefano Ceri,**  
Department of Electronics and IT  
Polytechnic of Milan, Italy  
ICMT keynote speaker

### ***Search Computing – A Model-driven perspective***

#### ***Abstract***

Search Computing (SeCo, [www.search-computing.it](http://www.search-computing.it)) is a project funded by the European Research Council (ERC). It focuses on building the answers to complex search queries like "Where can I attend an interesting conference in my field close to a sunny beach?" by interacting with a constellation of cooperating search services, using ranking and joining of results as the dominant factors for service composition.

This talk sketches the main characteristics of search computing and discusses how software engineering and model-driven engineering are challenged by the search computing problems. The talk presents Search Computing applications from a model-driven perspective, in terms of (1) the models describing the objects of interest, (2) the specification of applications through model transformations, and (3) the definition of a domain specific language (DSL) defined for the specification of search query plans.

#### ***Bio***

Stefano Ceri (<http://home.dei.polimi.it/ceri/>) is Professor of "Database Systems" at DEI, Politecnico di Milano; his research interests are focused on extending database technology to incorporate data distribution, deductive and active rules, object orientation, XML query languages; recent work is focused on design methods for data-intensive WEB sites, stream reasoning, and search computing. He is vice-chairman (representing Politecnico di Milano) of the Executive board of Alta Scuola Politecnica, a school of excellence for master-level students which is jointly organized by the Politecnico di Milano and the Politecnico di Torino (2007-2010). He is author of about 250 articles on International Journals and Conference Proceedings, and is co-author of 9 international books; he is co-editor in chief of the book series "Data Centric Systems and Applications" (Springer-Verlag).

He is responsible for several EU Projects projects at the Politecnico di Milano, including LarKC "Large Knowledge Collider" (2008-2011). In July 2008 he has been awarded an IDEAS Advanced Grant, funded by the European Research Council (ERC), on "Search Computing" (2008-2013). He is co-inventor of WebML a model for the conceptual design of Web applications (US Patent 6,591,271, July 2003) and co-founder of Web Models, a startup of Politecnico di Milano focused on WebML commercialization by means of the product WebRatio ([www.webratio.com](http://www.webratio.com)).

**Tuesday 29 June (9:30h, Auditorium)**



**Professor Oege de Moor**  
Professor of Computer Science  
Tutorial Fellow  
Magdalen College Oxford  
TOOLS keynote speaker

***Analysing OO programs on an OO database***

***Abstract***

Software analysis is searching data, where the data consists of the source code. It's natural, therefore, to try and write analyses as relational database queries, a suggestion first explored by Linton in 1984. Since then, the program analysis community has concluded that while the idea might be attractive, it doesn't work in practice both because the queries quickly become way too complex, and because query execution is too slow.

ODASA is an industrial engine for software analysis that finally realises the vision of program analysis via queries. It overcomes the earlier impediments in two ways: first, by using object-oriented concepts to make writing the queries easier, and second, by applying known techniques for optimising OO programs to optimising OO queries.

In the talk, I shall demonstrate how ODASA facilitates easy construction of new queries, and how those can be used to analyse substantial software systems like Firefox.

***Bio***

Oege de Moor is a professor of computer science at the University of Oxford, where he leads the Programming Tools research group. He is also the CEO of Semmler Ltd, the company that produces ODASA.

**Wednesday 30 June (9:30h, Auditorium)**



**Bertrand meyer,**  
ETH Zurich & Eiffel Software  
Keynote speaker

***Ten things I want to know, empirically***

***Abstract***

Empirical software engineering research has made tremendous advances in the past decade, thanks to the availability of large software repositories, open-source and commercial. One might think that by now we would have a solid body of knowledge about what works and not in software development. This is not the case. Fundamental questions, even some that naturally come up in an introductory software engineering course, still have no better answers than a mix of opinion and guesswork.

Many empirical studies are published, but they often lack reproducibility and generality. Any hope the reader may have entertained to derive some value from such articles vanishes when he reaches the obligatory and dreadful "Threats to validity" section.

This talks brings no answers but shapes the questions. I will present ten issues of software engineering, all simple and all important, propose them as a challenge to researchers in empirical software engineering, and set a framework for adjudicating candidate responses.

***Bio***

Bertrand Meyer is Professor of Software Engineering at ETH Zurich (the Swiss Federal Institute of Technology) and Chief Architect of Eiffel Software, based in Santa Barbara (California). He is the author of numerous articles and over ten books on many topics of software engineering, including the best-seller "Object-Oriented Software Construction" (Prentice Hall). He is an ACM Fellow and has received the ACM Software System Award and the Dahl-Nygaard prize for object technology, and is a member of the French academy of technologies. His most recent book, "Touch of Class: An Introduction to Programming Well using Objects and Contracts" (Springer) applies advanced software engineering techniques to the introductory teaching of programming.

**Wednesday 30 June (14:00h, Auditorium)**



**Ivar Jacobson,**  
Ivar Jacobson International  
Keynote speaker

***A SMARTER WAY: The Software Engineering Method And Theory Initiative (Semat)***

***Abstract***

Semat and its large supporter base believes that software engineering is gravely hampered by immature practices. Specific problems include: The prevalence of fads more typical of the fashion industry than an engineering discipline, lack of a sound, widely accepted theoretical basis, a huge number of methods and method variants, with differences little understood and artificially magnified. SEMAT supports a process to refound software engineering based on a solid theory, proven principles and best practices that include; a kernel of widely-agreed elements, extensible for specific uses, addressing both technology and people issues. We focus on changing the way we deal with methods and processes, which will impact our industry, its education, its research and its developer community. Join this presentation on SEMAT by Ivar Jacobson to identify how we can change how we work today, as well as influence larger changes required to operate more successfully tomorrow.

***Bio***

Dr. Ivar Jacobson is a father of components and component architecture, use cases, the Unified Modelling Language and the Rational Unified Process. He has contributed to modern business modelling and aspect-oriented software development. Thus, Ivar is a legend in his own lifetime. However, all of this is history. Now he is together with Bertrand Meyer and Richard Soley leading a worldwide network Semat, which has agreed to revolutionize software development.

## Wednesday 30 June (Banquet dinner)



**Jean Bézivin,**  
Professor of Computer Science  
University of Nantes, France  
TOOLS 2010 banquet dinner speaker

Jean Bézivin is a professor of Computer Science at the University of Nantes, France, and lead of AtlanMod a joint research team between INRIA and Ecole des Mines of Nantes. He got his Master degree from the University of Grenoble and Ph.D. from the University of Rennes . Since 1980 he has been very active in Europe in the object-oriented community, starting the ECOOP series of conference, the TOOLS series of conferences, the MoDELS/UML series of conferences and more recently the ICMT (International Conference on Model Transformation) series of conferences.

He founded in 1979, at the University of Nantes, one of the first Master programs in Software Engineering entirely devoted to Object Technology (Data Bases, Concurrency, Languages and Programming, Analysis and Design, etc.). His present research interests include legacy reverse engineering, general model engineering and, in particular, model-transformation languages and frameworks, and the building of model-engineering platforms. He has published many papers and organized tutorials and workshops in the domains of concurrency, simulation, object-oriented programming, and model-driven engineering.

On the subjects of model-driven engineering and MDA, he has been leading the OFTA industrial group in France, co-animating a CNRS specific action and the Dagstuhl seminar #04101. He is a member of the ECOOP, MoDELS, TOOLS and ICMT steering committees. He was co-chair of the ECOOP'2006 conference organized in Nantes. He can be reached at [JBezivin@gmail.com](mailto:JBezivin@gmail.com)

Thursday 1 July (9:30h, Auditorium)



**Mike Ernst,**  
Associate Professor  
Computer Science & Engineering  
University of Washington  
TAP keynote speaker

***How tests and proofs impede one another: The need for always-on static and dynamic feedback***

***Abstract***

Dynamic and static feedback provide complementary benefits, and neither one dominates the other. Sometimes, sound global static checking is most useful. At other times, running tests is most useful. Unfortunately, current languages impose too rigid a model of the development process: they favor either static or dynamic tools, which prevents the programmer from freely using the other variety. I propose a new approach, in which the developer always has access to immediate execution feedback, and always has access to sound static feedback.

The aim is to permit developers to work the way they find most natural and effective, which will improve reliability and reduce cost. Developers will create software that is more reliable than that created in an environment that favors dynamic analysis. Developers will work faster than they can in an environment that favors static analysis.

***Bio***

Michael D. Ernst is an Associate Professor in the Computer Science and Engineering department at the University of Washington. His research aims to make software more reliable, more secure, and easier (and more fun!) to produce. His primary technical interests are in software engineering and related areas, including programming languages, type theory, security, program analysis, bug prediction, testing, and verification. Ernst's research combines strong theoretical foundations with realistic experimentation, with an eye to changing the way that software developers work. Dr. Ernst was previously a tenured professor at MIT, and before that a researcher at Microsoft Research.

**Friday 2 July (9:30h, Auditorium)**



**Valérie Issarny,**  
Director of Research INRIA  
Paris Rocquencourt, France  
SC keynote speaker

***From Middleware to On The Fly Connector Synthesis for The Dynamic Composition of Pervasive Software Intensive Networked Systems***

***Abstract***

Our everyday activities are increasingly dependent upon the assistance of digital systems that pervade our living environment. However, the current ubiquity of digital systems is technology-dependent. The efficacy of integrating and composing networked systems is proportional to the level of interoperability of the systems' respective underlying technologies. This leads to a landscape of technological islands of networked systems, although interoperability bridges may possibly be deployed among them. Further, the fast pace at which technology evolves at all abstraction layers increasingly challenges the lifetime of networked systems in the digital environment.

The CONNECT European project aims at dropping the heterogeneity barriers that prevent networked systems from being eternal, thus enabling the continuous composition of networked systems to respond to the evolution of functionalities provided to and/or required from the networked environment, independently of the embedded software technologies. CONNECT specifically targets the dynamic synthesis of connectors via which networked systems communicate. The resulting CONNECTors then compose and further adapt the interaction protocols run by the connected systems, which realize application- down to middleware-layer protocols.

In this talk, I will discuss why and how CONNECT revisits the middleware paradigm so as to enable the dynamic composition of networked systems in the now pervasive digital environments. I will then highlight the research challenges faced by CONNECT in order to enable on the fly CONNECTor synthesis. I will in particular concentrate on the elicitation of a theory of connectors that shall allow reasoning about and adapting the interaction behavior of networked systems at run-time, from the application down to the middleware-layer. The presentation is on joint work with colleagues at INRIA (Amel Bennaceur, Nikolaos Georgantas, Animesh Pathak) and University of L'Aquila (Paola Inverardi, Romina Spalazzese, Massimo Tivoli) as part of the FP7 ICT FET CONNECT project.

***Bio***

Dr. Valérie Issarny is "Directrice de recherche" at INRIA. Since 2002, she is the head of the ARLES INRIA research project-team at INRIA-Rocquencourt. Her research interests relate to distributed systems, software engineering, pervasive computing/ambient intelligence systems and middleware. She has (co)authored over 100 technical papers in the area of distributed systems and software engineering, and has been involved in a number of European and industrial projects. She has been and is serving as PC member, including as PC chair, of leading international events in the area of distributed systems, middleware, software engineering and trust management. She was the coordinator of the FP6 IST STREP PLASTIC project, and is currently the coordinator of the FP7 ICT FET CONNECT project.

**Friday 2 July (11:00h, Auditorium)**



**Nachi Nagappan,**  
Empirical Software Engineering and  
Measurement Research Group  
Microsoft Research  
TAP keynote speaker

## **Myths in Software Engineering: From the other side**

### ***Abstract***

In this talk I will broadly discuss certain myths and assumptions in Software Engineering related to software quality. Presenting a complementary view to the TAP community, the empirical software engineering community adopts the viewpoint that “software engineering is a relatively new and immature discipline. In order to mature, we need to adopt an experimental view of research allowing us to observe and experiment with technologies, understand their weaknesses and strengths, tailor technologies to the goals and characteristics of particular projects, and package them together with empirically gained experience to enhance their reuse potential in future projects... (From ISERN Purpose)”.

In this regard my talk specifically addresses issues relating to static analysis, code coverage, distributed development, minor contributors, unit testing, spec inspections, test driven development, organizational metrics and software assertions. I will also highlight the impact of these results in practice with examples.

### ***Bio***

Nachiappan Nagappan is a Senior Researcher in the Empirical Software Engineering and Measurement Research Group (ESM) at Microsoft Research. His research interests are in the field of software measurement focusing on software metrics, software reliability, failure analysis/prediction and empirical software engineering processes. Prior to his current position he earned his PhD from North Carolina State University in 2005.

## Overall Schedule and Room Assignment

Monday (Jun 28)	Tuesday (Jun 29)	Wednesday (Jun 30)	Thursday (Jul 1)	Friday (Jul 2)
<b>ICMT</b> (3.0.2)			<b>SC</b> (3.0.2)	
		<b>TOOLS</b> (3.0.1)		
<b>IFIP TC2</b> (2.0.6)	<b>IFIP DS</b> (2.0.6)		<b>TAP</b> (4.0.1)	
<b>DYLA</b> (4.0.1)	<b>MoSE</b> (4.1.1)	<b>MtATL</b> (4.1.1)	<b>TTC</b> (4.1.1 - 4.1.2)	
<b>BSME</b> (4.1.1)	<b>WCSI</b> (4.0.1)	<b>TWOMDE</b> (4.0.1)	<b>IWMCP</b> (4.1.4)	<b>QAOOSE</b> (4.1.4)

## Detailed Program

Monday, 28 June 2010

Time	ICMT
09:30-11:00	<b>Keynote: Stefano Ceri</b>
11:00-11:30	Coffee Break
11:30-12:00	<b>Safe Composition of Transformations</b>
12:00-12:30	<b>From State-to Delta-Based Bidirectional Model Transformations</b>
12:30-13:00	<b>Surviving the Heterogeneity Jungle with Composite Mapping Operators</b>
13:00-14:30	Lunch
14:30-15:00	<b>Meta-model Matching Based on Planar Graph Edit Distance</b>
15:00-15:30	<b>From Sequence Diagrams to State Machines by Graph Transformation</b>
15:30-16:00	<b>Synthesis of OCL Pre-Conditions for Graph Transformation Rules</b>
16:00-16:30	Coffee Break
16:30-17:00	<b>Constructing and Navigating Non-Invasive Model Decorations</b>
17:00-17:30	<b>Implementing Business Process Recovery Patterns through QVT Transformations</b>
17:30-18:00	<b>Temporal Model-Based Diagnostics Generation for HVAC Control Systems</b>

## Tuesday, 29 June 2010

Time	ICMT	TOOLS Europe
09:30-11:00	Keynote: Oege de Moor	
11:00-11:30	Coffee Break	
11:30-12:00	Domain-Specific of Model	Composition Deltas
12:00-12:30	Deep with	Meta-Modelling MetaDepth
12:30-13:00	Model-to-Model by	Transformation Demonstration
13:00-14:30	Lunch	
14:30-15:00	Model Migration with Epsilon Flock	Encoding Ownership Types in Java
15:00-15:30	Exceptional Transformations	Revisiting Parametric Types and Virtual Classes
15:30-16:00	Towards Incremental Execution of ATL Transformations	Welterweight Java
16:00-16:30	Coffee Break	
16:30-17:00	Improving Higher-Order Transformations Support in ATL	Late Binding of AspectJ Advice
17:00-17:30	A Constructive Approach to Testing Model Transformations	EriLex: An Embedded Domain Specific Language Generator
17:30-18:00	Towards a Rewriting Logic Semantics for ATL	A Generic Meta-Model-based Approach for Specifying Framework Functionality and Usage

## Wednesday, 30 June 2010

Time	TOOLS Europe
09:30-11:00	Keynote: Bertrand Meyer
11:00-11:30	Coffee Break
11:30-12:00	Understanding the Impact of Collection Contracts on Design
12:00-12:30	Visualizing Dynamic Metrics with Profiling Blueprints
12:30-13:00	Domain-Specific Program Checking
13:00-14:30	Lunch
14:30-16:00	Keynote: Ivar Jacobson
16:00-16:30	Coffee Break
16:30-17:00	Read-Only Execution for Dynamic Languages
17:00-17:30	Loosely-coupled Distributed Reactive Programming in Mobile Ad Hoc Networks
17:30-18:00	Reasoning about Function Objects

## Thursday, 1 July 2010

Time	SC	TOOLS Europe	TAP
09:30-11:00	Keynote: Michael Ernst		
11:00-11:30	Coffee Break		
11:30-12:00	Composing models at two modeling levels to capture heterogeneous concerns in requirements	JSTest: Contract-Driven Testing of JavaScript Code	Contract-Driven Testing of JavaScript Code
12:00-12:30	Managing Variability in Workflow with Feature Model Composition Operators	Moles: tool-assisted environment isolation with closures	tool-assisted with closures
12:30-13:00		QuickSpec: Guessing using Testing	Formal Specifications using Testing
13:00-14:30	Lunch		
14:30-15:00	An advice for advice composition in AspectJ		Testing First-Order Logic Axioms in Program Verification
15:00-15:30	The .NET Composition Primitives		Proving OCL Invariant Independence by Automatically Generated Test Cases
15:30-16:00		Optimizing Aspect-Oriented Mechanisms for Embedded Applications	Proof process evaluation with mutation analysis
16:00-16:30	Coffee Break		
16:30-17:00			Generating Regression Unit Tests using a Combination of Verification and Capture & Replay
17:00-17:30			DyGen: Automatic Generation of High-Coverage Tests via Mining Gigabytes of Dynamic Traces
17:30-18:00			Combining Static Analysis and Test Generation for C Program Debugging

Friday, 2 July 2010

Time	SC	TAP
09:30-11:00	<b>Keynote: Valérie Issarny</b>	
11:00-11:30	Coffee Break	
11:30-12:00	<b>Dynamically Adaptive Systems through Automated Model Evolution using Service Compositions</b>	<b>Keynote: Nachi Nagappan</b>
12:00-12:30	<b>Visualizing and Assessing a Compositional Approach of Business Process Design</b>	
12:30-13:00	<b>Construction of Asynchronous Communicating Systems</b>	
13:00-14:30	Lunch	
14:30-15:00	<b>Composition and Compositionality for Robotics Components</b>	<b>Generating High Quality Tests for Boolean Circuits by Treating Tests as Proof Encodings</b>
15:00-15:30	<b>Event-specific Software Composition in Context-oriented Programming</b>	<b>Relational Analysis of (Co)inductive Predicates, (Co)algebraic Datatypes, and (Co)recursive Functions</b>
15:30-16:00	<b>Predicated Generic Functions: Enabling Context-Dependent Method Dispatch</b>	<b>Combining narrowing and theorem proving for rewriting-logic specifications</b>
16:00-16:30	Coffee Break	
16:30-17:00		<b>Syntactic Abstraction of B Models to Generate Tests</b>
17:00-17:30		<b>Building a test-ready abstraction of a behavioral model using CLP</b>
17:30-18:00		

## ICMT Program

### Monday 28 June

#### ICMT Keynote [Chair: Laurence Tratt] [Auditorium]

- **Stefano Ceri**: Search Computing: a Model-Driven Perspective.

#### ICMT Session 1 "Composition and Bidirectionality" [Chair: Jordi Cabot] [Room 3.0.2]

- Safe Composition of Transformations. *Florian Heidenreich, Jan Kopcsek and Uwe Aßmann*
- From State-to Delta-Based Bidirectional Model Transformations. *Zinovy Diskin, Yingfei Xiong and Krzysztof Czarnecki*
- Surviving the Heterogeneity Jungle with Composite Mapping Operators. *Manuel Wimmer, Gerti Kappel, Angelika Kusel, Werner Retschitzegger, Johannes Schoenboeck and Wieland Schwinger*

#### ICMT Session 2 "Matching and Execution" [Chair: Alfonso Pierantonio] [Room 3.0.2]

- Meta-model Matching Based on Planar Graph Edit Distance. *Konrad Voigt and Thomas Heinze*
- From Sequence Diagrams to State Machines by Graph Transformation. *Roy Grønmo and Birger Møller-Pedersen*
- Synthesis of OCL Pre-Conditions for Graph Transformation Rules. *Jordi Cabot, Robert Clarisó, Esther Guerra and Juan de Lara*

#### ICMT Session 3 "Model Management and Applications" [Chair: Martin Gogolla] [Room 3.0.2]

- Constructing and Navigating Non-Invasive Model Decorations. *Dimitrios Kolovos, Louis Rose, Nicholas Drivalos Matragkas, Richard Paige, Fiona Polack and Kiran Fernandes*
- Implementing Business Process Recovery Patterns through QVT Transformations. *Ricardo Pérez-Castillo, Ignacio García-Rodríguez de Guzmán and Mario Piattini*
- Temporal Model-Based Diagnostics Generation for HVAC Control Systems. *Marion Behrens and Gregory Provan*

### Tuesday 29 June

#### Joint TOOLS Europe and ICMT Keynote [Chair: Jan Vitek] [Auditorium]

- **Oege de Moor**: Analysing OO Programs on an OO Database.

#### ICMT Session 1, joint with TOOLS Europe [Chair: Jeff Gray] [Room 3.0.1]

- Domain-Specific Composition of Model Deltas (ICMT). *Maidor Azanza, Don Batory, Oscar Díaz and Salvador Trujillo*
- Deep Meta-Modelling with MetaDepth (TOOLS Europe). *Juan De Lara and Esther Guerra*

- Model-to-Model Transformations By Demonstration (ICMT). *Philip Langer, Manuel Wimmer and Gerti Kappel*

### ICMT Session 2 "Transformation Systems" [Chair: Antonio Cichetti] [Room 3.0.2]

- Model Migration with Epsilon Flock. *Louis Rose, Dimitrios Kolovos, Richard Paige and Fiona Polack*
- Exceptional Transformations. *Eugene Syriani, Jörg Kienzle and Hans Vangheluwe*
- Towards Incremental Execution of ATL Transformations. *Frédéric Jouault and Massimo Tisi*

### ICMT Session 3 "Semantics" [Chair: Dimitris Kolovos] [Room 3.0.2]

- Improving Higher-Order Transformations Support in ATL. *Massimo Tisi, Jordi Cabot and Frédéric Jouault*
- A constructive approach to testing model transformations. *Camillo Fiorentini, Alberto Momigliano, Mario Ornaghi and Iman Poernomo*
- Towards a Rewriting Logic Semantics for ATL. *Javier Troya and Antonio Vallecillo*

## TOOLS Europe Program

### Tuesday 29 June

#### Joint TOOLS Europe and ICMT Keynote [Chair: Jan Vitek] [Auditorium]

- **Oege de Moor**: Analysing OO Programs on an OO Database.

#### TOOLS Europe Session 1, joint with ICMT [Chair: Jeff Gray] [Room 3.0.1]

- Domain-Specific Composition of Model Deltas (ICMT). *Maidier Azanza, Don Batory, Oscar Díaz and Salvador Trujillo*
- Deep Meta-Modelling with MetaDepth (TOOLS Europe). *Juan De Lara and Esther Guerra*
- Model-to-Model Transformations By Demonstration (ICMT). *Philip Langer, Manuel Wimmer and Gerti Kappel*

#### TOOLS Europe Session 2 [Chair: Richard Paige] [Room 3.0.1]

- Encoding Ownership Types in Java. *Nicholas Cameron, James Noble.*
- Revisiting Parametric Types and Virtual Classes. *Anders Bach Madsen, Erik Ernst.*
- Welterweight Java. *Johan Astlund, Tobias Wrigstad.*

#### TOOLS Europe Session 3 [Chair: Manuel Oriol] [Room 3.0.1]

- Late Binding of AspectJ Advice. *Ryan M Golbeck, Peter Selby, Gregor Kiczales.*
- EriLex: An Embedded Domain Specific Language Generator. *Hao Xu.*
- A Generic Meta-Model-based Approach for Specifying Framework Functionality and Usage. *Fabian Christ, Jan-Christopher Bals, Gregor Engels, Christian Gerth, Markus Luckey.*

## Wednesday 30 June

### **TOOLS Europe Keynote** [Chair: James Noble] [Auditorium]

- **Bertrand Meyer.** Ten things I want to know, empirically

### **TOOLS Europe Session 1** [Chair: Alex Berger] [Room 3.0.1]

- Understanding the Impact of Collection Contracts on Design. *Stephen F Nelson, David J Pearce, James Noble.*
- Visualizing Dynamic Metrics with Profiling Blueprints. *Alexandre Bergel, Romain Robbes, Walter Binder.*
- Domain-Specific Program Checking. *Lukas Renggli, Stephane Ducasse, Tudor Girba, Oscar Nierstrasz.*

### **TOOLS Europe Keynote** [Chair: Bertrand Meyer] [Auditorium]

- **Ivar Jacobson:** A Smarter Way: The Software Engineering Method and Theory Initiative (Semat)

### **TOOLS Europe Session 2** [Chair: Angelo Gargantini] [Room 3.0.1]

- Read-Only Execution for Dynamic Languages. *Jean-Baptiste Arnaud, Marcus Denker, Stephane Ducasse, Damien Pollet, Alexandre Bergel, Mathieu Suen.*
- Loosely-coupled Distributed Reactive Programming in Mobile Ad Hoc Networks. *Andoni Lombide Carreton, Stijn Mostinckx, Tom Van Cutsem, Wolfgang De Meuter.*
- Reasoning about Function Objects. *Martin Nordio, Cristiano Calcagno, Bertrand Meyer, Peter Mueller, Julian Tschannen.*

## Thursday 1 July

### **Joint TOOLS Europe, SC and TAP Keynote** [Chair: Gordon Fraser] [Auditorium]

- **Michael Ernest:** The Need for Always-On Static and Dynamic Feedback: How Tests and Proofs Impede One Another.

### **TOOLS Europe Session 1** [Chair: Nate Nystrom] [Room 3.0.1]

- JSConTest: Contract-Driven Testing of JavaScript Code. *Phillip Heidegger, Peter Thiemann.*
- Moles: tool-assisted environment isolation with closures. *Jonathan de Halleux, Nikolai Tillmann.*

### **TOOLS Europe Session 2, joint with SC** [Chair: Eric Wohlstadter] [Room 3.0.1]

- SC Paper: An advice for advice composition in AspectJ.
- SC Paper: The .NET Composition Primitives: A Common Foundation for Open, Dynamic, and Reflective Component Frameworks.
- Optimizing Aspect-oriented Mechanisms for Embedded Applications. *Christine Hundt, Daniel Stohr, Sabine Glesner.*

## TAP Program

### Thursday 1 July

#### Joint TAP, SC and TOOLS Europe Keynote [Chair: Gordon Fraser] [Auditorium]

- **Michael Ernst:** The Need for Always-On Static and Dynamic Feedback: How Tests and Proofs Impede One Another.

#### TAP Session 1, joint with TOOLS Europe [Chair: Nate Nystrom] [Room 3.0.1]

- QuickSpec: Guessing Formal Specifications using Testing. *Koen Claessen, Nicholas Smallbone and John Hughes.*
- JSConTest: Contract-Driven Testing of JavaScript Code. *Phillip Heidegger, Peter Thiemann.* (TOOLS Europe)
- Moles: tool-assisted environment isolation with closures. *Jonathan de Halleux, Nikolai Tillmann.* (TOOLS Europe)

#### TAP Session 2: "Testing Proofs" [Chair: Peli de Halleux] [Room 4.0.1]

- Testing First-Order Logic Axioms in Program Verification. *Ki Yung Ahn and Ewen Denney.*
- Proving OCL Invariant Independence by Automatically Generated Test Cases. *Martin Gogolla, Lars Hamann and Mirco Kuhlmann.*
- Proof process evaluation with mutation analysis. *Lydie du Bousquet and Michel Levy.*

#### TAP Session 3: "Test Generation using Proof Techniques" [Chair: Martin Gogolla] [Room 4.0.1]

- Generating Regression Unit Tests using a Combination of Verification and Capture & Replay. *Christoph Gladisch, Shmuel Tyszberowicz, Bernhard Beckert and Amiram Yehudai.*
- DyGen: Automatic Generation of High-Coverage Tests via Mining Gigabytes of Dynamic Traces. *Suresh Thummalapenta, Jonathan Halleux, Nikolai Tillmann and Scott Wadsworth.*
- Combining Static Analysis and Test Generation for C Program Debugging. *Omar Chebaro, Nikolai Kosmatov, Alain Giorgetti and Jacques Julliard.*

### Friday 2 July

#### Joint SC and TAP Keynote [Chair: Benoit Baudry] [Auditorium]

- **Valérie Issarny:** From Middleware to on the Fly Connector Synthesis for the Dynamic Composition of Pervasive Software Intensive Networked Systems.

#### TAP Keynote [Chair: Angelo Gargantini] [Auditorium]

- **Nachiappan Nagappan:** Myths in Software Engineering: From the Other Side.

### TAP Session 1: (continued): "Test Generation using Proof Techniques"

[Chair: Angelo Gargantini] [Auditorium]

- Generating High Quality Tests for Boolean Circuits by Treating Tests as Proof Encodings. *Eugene Goldberg and Panagiotis Manolios.*

### TAP Session 2: "Theorem Proving and Testing" [Chair: Christoph Gladisch]

[Room 4.0.1]

- Relational Analysis of (Co)inductive Predicates, (Co)algebraic Datatypes, and (Co)recursive Functions. *Jasmin Christian Blanchette.*
- Combining narrowing and theorem proving for rewriting-logic specifications. *Vlad Rusu.*

### TAP Session 3: "Abstraction" [Chair: Vlad Rusu] [Room 4.0.1]

- Syntactic Abstraction of B Models to Generate Tests. *Jacques Julliand, Nicolas Stouls, BUE Pierre-christophe and Pierre-Alain Masson.*
- Building a test-ready abstraction of a behavioral model using CLP. *Pierre-Christophe Bue, Frederic Dadeau, Adrien de Kermadec and Fabrice Bouquet.*

## SC Program

### Thursday 1 July

#### Joint SC, TAP and TOOLS Europe Keynote [Chair: Gordon Fraser] [Auditorium]

- **Michael Ernst:** The Need for Always-On Static and Dynamic Feedback: How Tests and Proofs Impede One Another.

#### SC Session 1: "Model Composition" [Chair: Benoit Baudry] [Room 3.0.2]

- Composing models at two modeling levels to capture heterogeneous concerns in requirements. *Erwan Brottier, Yves Le Traon, Bertrand Nicolas.*
- Managing Variability in Workflow with Feature Model Composition Operators. *Mathieu Acher, Philippe Collet, Philippe Lahire, Robert France.*

#### SC Session 2: "Languages", joint with TOOLS Europe [Chair: Eric Wohlstadter]

[Room 3.0.1]

- An advice for advice composition in AspectJ. *Fuminobu Takeyama, Shigeru Chiba.*
- The .NET Composition Primitives: A Common Foundation for Open, Dynamic, and Reflective Component Frameworks. *Mircea Trofin, Clemens Szyperski, Nicholas Blumhardt.*
- TOOLS Europe paper: Optimizing Aspect-oriented Mechanisms for Embedded Applications. *Christine Hundt, Daniel Stohr, Sabine Glesner.*

## Friday 2 July

### **Joint SC and TAP Keynote** [Chair: Benoit Baudry] [Auditorium]

- **Valérie Issarny:** From Middleware to on the Fly Connector Synthesis for the Dynamic Composition of Pervasive Software Intensive Networked Systems.

### **SC Session 1: "Composing Services"** [Chair: Jacques Malenfant] [Room 3.0.2]

- Dynamically Adaptive Systems through Automated Model Evolution using Service Compositions. *Adina Mosincat, Walter Binder, Mehdi Jazayeri.*
- Visualizing and Assessing a Compositional Approach of Business Process Design. *Sebastien Mosser, Alexandre Bergel, Mireille Blay-Fornarino.*
- Construction of Asynchronous Communicating Systems: Weak Termination guaranteed!. *Kees M. van Hee, Natalia Sidorova, Jan Martijn van der Werf.*

### **SC Session 2: "Context-Oriented and Domain-Specific Composition"**

[Chair: Shigeru Chiba] [Room 3.0.2]

- Composition and Compositionality for Robotics Components. *Olena Rogovchenko, Jacques Malenfant .*
- Event-specific Software Composition in Context-oriented Programming. *Malte Appeltaufer, Robert Hirschfeld, Hidehiko Masuhara, Michael Haupt, Kazunori Kawauchi.*
- Predicated Generic Functions: Enabling Context-Dependent Method Dispatch. *Jorge Vallejos, Sebastian Gonzalez, Pascal Costanza, Wolfgang De Meuter, Theo D'Hondt, Kim Mens.*

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## Workshops: BSME 2010

### Business System Management and Engineering

**Date:** Monday 28 June

**Location:** Room 4.1.1

The next-generation of Business Process Management (BPM) will serve as a means of developing mission-critical service-enabled applications based on strategic technology capable of creating and executing collaborative end-to-end business processes. The trend will be to move from relatively stable, organization-specific applications to more dynamic, high-value ones where business process interactions and trends are examined closely to understand more accurately application dynamics. Such collaborative, complex end-to-end service interactions give rise to the concept of Service Networks.

The BSME workshop offers a forum for researchers and practitioners to present and discuss research towards this next generation of Business Process Management for service networks that will require a unification of concepts, methods and techniques from the field of Service Oriented Architecture, "traditional" BPM, Transaction Management, Business Activity Monitoring and Cloud Computing.

#### Workshop Organizers

- Mike Papazoglou (Tilburg University, Netherlands)
- Willem-Jan Van den Heuvel (Tilburg University, Netherlands)
- Frank Leymann (IAAS, Germany)
- Dimka Karastoyanova (IAAS, Germany)

#### BSME Program

Time	Description
09:30 - 10:00	<b>On Some Challenges in Business Systems Management and Engineering for the Networked Enterprise of the Future.</b> <i>Andreas Friesen, Wolfgang Theilmann, Markus Heller, Jens Lemcke and Christof Momm.</i>
10:00 - 10:30	<b>Digital Ecosystems for Business e-Services in Knowledge-Intensive Firms.</b> <i>Youakim Badr, Yong Peng, Frédérique Biennier.</i>
10:30 - 11:00	<b>Capturing and Aligning Assurance Requirements for Business Services Systems.</b> <i>Eric Dubois, Sylvain Kubicki, Sophie Ramel and André Rifaut.</i>
11:00 - 11:30	Coffee break
11:30 - 12:00	<b>On Guaranteeing Global Dependability Properties in Collaborative Business Process Management.</b> <i>Valeria Cardellini, Emiliano Casalicchio, Vincenzo Grassi, Francesco Lo Presti, and Raffaella Mirandola.</i>
12:00 - 12:30	<b>Business-aware Transaction Management.</b> <i>Mike Papazoglou, Francois Hantry, and Mohand-Said Hacid.</i>
12:30 - 13:00	<b>Inter-organizational Reference Modeling.</b> <i>Birgit Hofreiter, Christian Huemer, Gerti Kappel, Dieter Mayrhofer, and Jan vom Brocke.</i>
13:00 - 14:30	Lunch
14:30 - 15:00	<b>Composition in Converged Service Networks: Requirements and Solutions.</b> <i>Jörg Niemöller, Eugen Freiter, Konstantinos Vandikas, Raphaël Quinet, Roman Levenshteyn and Ioannis Fikouras.</i>
15:00 - 15:30	<b>A Business Process Knowledge Base for Composite Services Development.</b> <i>Michele Missikoff, Maurizio Proietti, Fabrizio Smith.</i>
15:30 - 16:00	Coffee break
16:00 - 16:30	<b>An Architectural Style for Trusted Service Systems.</b> <i>Leszek A. Maciaszek.</i>
16:30 - 17:00	<b>Toward Certification of Services.</b> <i>Marco Anisetti, Claudio A. Ardagna, and Ernesto Damiani.</i>
17:00 - 17:30	<b>A Policy-Driven Dynamic Reconfiguration for Virtualized Web Services-based Architectures.</b> <i>Ismael Bouassida Rodriguez, Riadh Ben Halima, Khalil Drira, Christophe Chassot and Mohamed Jmaiel.</i>

## DYLA 2010

### Fourth Workshop on Dynamic Languages and Applications

**Date:** Monday 28 June

**Location:** Room 4.0.1

The DYLA Workshop series is focused on the revival of dynamic languages. The goal of this workshop is to act as a forum where we can discuss new advances in the design, implementation and application of dynamically typed languages. The workshop will have a demo-oriented style. The idea is to allow participants to demonstrate new and interesting features and discuss what they feel is relevant for the dynamic language community.

#### Workshop Organizers

- Alexandre Bergel, University of Chile, Santiago, Chile
- Carl Friedrich Bolz, Heinrich-Heine-Universität, Düsseldorf, Germany
- Simon Denier, RMoD Research group, INRIA Lille-Nord Europe, France
- Michael Haupt, Hasso-Plattner-Institut, Potsdam, Germany
- Adrian Kuhn, University of Bern, Switzerland

#### DYLA Program

Time	Description
09:30 - 10:15	<b>Jitting Prolog for Fun and Profit.</b> <i>David Schneider, Carl Friedrich Bolz and Michael Leuschel.</i>
10:15 - 11:00	<b>A dynamic virtual machine for the support of interoperable programming languages.</b> <i>Baltasar García Perez-Schofield and Francisco Ortín Soler.</i>
11:00 - 11:30	Coffee break
11:30 - 12:15	<b>Agile Code Profiling Visualization.</b> <i>Alexandre Bergel.</i>
12:15 - 13:00	<b>Debuggers in Dynamic Languages.</b> <i>Rocky Bernstein.</i>
13:00 - 14:30	Lunch
14:30 - 15:15	<b>Visual Scripting Language.</b> <i>Michaël Hoste and Tom Mens.</i>
15:15 - 16:00	<b>Practical Dynamic Grammars for Dynamic Languages.</b> <i>Lukas Renggli, Stéphane Ducasse, Tudor Gîrba and Oscar Nierstrasz.</i>
16:00 - 16:30	Coffee break
16:30 - 18:00	<b>Discussion/Coding session</b>

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## MoSE 2010

### 2nd International Workshop on Model-Driven Service Engineering

**Date:** Tuesday 20<sup>th</sup> June

**Location:** Room 4.1.1

Model-Driven Engineering (MDE) deals with the provision of models, transformations between them and code generators to address software development. One of the main advantages of model-driven approaches is the provision of a conceptual structure where the models used by business managers and analysts can be traced towards more detailed models used by software developers. This kind of alignment between high level business specifications and the lower level Service Oriented Architectures (SOA) is a crucial aspect in the field of Service-Oriented Development (SOD) where meaningful

business services and business process specifications are those that can give support to real business environment usually changing with increasing speed.

SOD has become currently in one of the major research topics in the field of software engineering, leading the appearance of a novel and emerging discipline called Service Engineering (SE), which aim to bring together benefits of SOA and Business Process Management (BPM). SE focuses on the identification of service (a client-provider interaction that creates value for the client) as first class elements for the software construction. The convergence of SE with MDE can holds out the promise of rapid, accurate development of software that serves software users' goals.

In this context, MoSE workshop aims to provide a forum to discuss different issues related to SE in conjunction with MDE, boarding open research problems in this area as well as practical experiences. Particular interests include methods, modelling languages, development methodologies and techniques in the field of SOD.

### **Workshop Organizers**

- Mike Papazoglou (Tilburg University, Netherlands)
- Esperanza Marcos (Rey Juan Carlos University, Spain)
- Willem-Jan Van den Heuvel (Tilburg University, Netherlands)
- Valeria De Castro (Rey Juan Carlos University, Spain)
- Juan Manuel Vara (Rey Juan Carlos University, Spain)

### **MoSE Program**

<b>Time</b>	<b>Description</b>
09:30 - 11:00	<b>TOOLS 2010 Keynote Talk</b>
11:00 - 11:30	Coffee break
11:30 - 12:00	<b>Modelling Self-Management in Service-Oriented Systems using SelfMML.</b> <i>Carlos Rodriguez, Jorge Jesus Gomez Sanz and Juan Pavon.</i>
12:00 - 12:30	<b>On the Design of a Domain Specific Language for Enterprise Application Integration Solutions.</b> <i>Rafael Z. Frantz, Carlos Molina Jimenez and Rafael Corchuelo.</i>
12:30 - 13:00	<b>Tool support for Service Oriented development from Business Processes.</b> <i>Andrea Delgado, Ignacio García-Rodríguez de Guzmán, Francisco Ruiz and Mario Piattini.</i>
13:00 - 14:15	Lunch
14:15 - 14:45	<b>Organic Aggregation Service Engineering Framework (OASEF): A New Model-driven Approach to Service Engineering.</b> <i>Yuanzhi Wang.</i>
14:45 - 15:15	<b>Inference of performance annotations in Web Service composition models.</b> <i>Antonio García-Domínguez, Inmaculada Medina-Bulo and Mariano Marcos-Bárcena.</i>
15:15 - 16:00	<b>MoSE 2010 Keynote's Talk.</b> <i>Eelco Visser</i>
16:00 - 16:30	Coffee break
16:30 - 18:00	<b>Meeting of the Spanish Network on Web Services</b>

# WCSI 2010

## International Workshop on Component and Service Interoperability

**Date: Tuesday 29 June**

**Location: Room 4.0.1**

The development of software systems requires mechanisms to structure them in order to tackle their complexity. This has led to the appearance of different kinds of abstractions to encapsulate system functionality, e.g., modules, objects, components, and more recently, services. Systems are then built as assemblies of these smaller and reusable entities, which are commonly developed by third parties, and that often present interoperability issues when assembled. Hence, interoperability is one of the key aspects related to the construction of large software systems, and can be defined as the ability of two or more entities to communicate and cooperate despite interface mismatch.

Several levels of interoperability, and accordingly of interface description languages (IDL), have been described: the signature level deals with the static aspects of component interoperability; the behaviour or protocol level specifies the order in which the operations described in the signature interface should be invoked; the service level includes the description of non-functional properties like temporal requirements, security, cost, etc; finally, the functional or conceptual level concerns the functional or semantic specification of the component or service. Interoperability problems may arise at any of the interface levels above. Detecting mismatch and providing the means to solve it is crucial for building systems out of components or services, enabling real third-party composition. Objectives are twofold: (i) discovering interoperability issues, and (ii) controlling and ensuring correct interactions among the entities that form the system. Furthermore, extended interface description and analysis is the key to predict global system properties based on the features of its constituent parts.

### Workshop Organizers

- Javier Cámara (INRIA Grenoble – Rhône-Alpes, France)
- Carlos Canal (University of Málaga, Spain)
- Gwen Salaün (INRIA Grenoble – Rhône-Alpes, France)

### WCSI Program

Time	Description
09:30 - 11:00	<b>TOOLS 2010 Keynote Talk</b>
11:00 - 11:30	Coffee break
11:30 - 12:15	<b>A Reusable Component for Communication and Data Synchronization in Mobile Distributed Interactive Applications.</b> <i>Abdul Malik Khan, Sophie Chabridon and Antoine Beugnard.</i>
12:15 - 13:00	<b>Behavioural Models for Group Communications.</b> <i>Antonio Ludovic Henrio, Eric Madelaine and Rabea Ameur-Boulifa.</i>
13:00 - 14:30	Lunch
14:30 - 15:15	<b>Tau Be or not Tau Be? - A Perspective on Service Compatibility and Substitutability.</b> <i>Meriem Ouederni and Gwen Salaün.</i>
15:15 - 16:00	<b>Multi-levels Contracts for Trusted Components.</b> <i>Mohamed Messabihi, Pascal André and Christian Attiogbé.</i>
16:00 - 16:30	Coffee break
16:30 - 17:15	<b>Contracts for Security Adaptation.</b> <i>J. Antonio Martín, Ernesto Pimentel.</i>
17:15 - 18:00	<b>Discussion and wrap-up</b>

# MtATL 2010

## 2nd International Workshop on Model Transformations with ATL

**Date: Wednesday 30 June**

**Location: Room 4.1.1**

Model transformation is an essential operation in Model-Driven Engineering. It may be used to generate lower-level code from higher-level models, but its application scope has now gone beyond Model-Driven Engineering. After the success of the 1st International Workshop on Model Transformations with ATL (AtlanMod Transformation Language), this 2nd event of the series aims at showing new applications for model transformations using ATL, as well as at improving the technology.

Although the experience of using ATL is very positive, ATL is an evolving technology that is still a subject of research. Feedback from the ATL users and researchers is crucial for identifying potential language extensions and incorporating research results into the language. The connection between the language designers and the language users guarantees that ATL stays adequate to the real needs for model transformations encountered in non-trivial industrial and academic applications. The main purpose of this workshop is to get together users and researchers in the domain of model transformations both from the academia and the industry in order to share experience.

### Workshop Organizers

- Marcos Didonet Del Fabro (IBM Software Group, France)
- Frédéric Jouault (Université de Nantes, France)
- Ivan Kurtev (University of Twente, The Netherlands)

### MtATL Program

Time	Description
09:30 - 11:00	<b>TOOLS Europe Keynote Talk</b>
11:00 - 11:30	Coffee break
11:30 - 11:50	<b>A proposal to improve performance of ATL collections.</b> <i>Jesús Sánchez Cuadrado</i>
11:50 - 12:10	<b>Using EMF and ATL to improve primitive types management in MDE proposals.</b> <i>Juan Manuel Vara, Veronica Andrea Bollati, Emanuel Irrazabal and Esperanza Marcos</i>
12:10 - 12:30	<b>Quality Assessment of ATL Model Transformations using Metrics.</b> <i>Marcel van Amstel and Mark van den Brand</i>
12:30 - 12:50	<b>ATL 3.1 – Industrialization improvements.</b> <i>William Piers</i>
12:50 - 13:00	<b>Discussion</b>
13:00 - 14:30	Lunch
14:30 - 14:50	<b>Introducing Variability Rules in ATL for Managing Variability in MDE-based Product Lines.</b> <i>Marten Sijtema</i>
14:50 - 15:10	<b>Configuring ATL Transformations in MOSKitt.</b> <i>Javier Muñoz, Miguel Llacer and Begoña Bonet</i>
15:10 – 15:30	<b>Using ATL in a tool-chain to calculate coverage data for UML class diagrams.</b> <i>Hao Wu, Rosemary Monahan and James Power</i>
15:30 - 16:00	<b>Discussion</b>
16:00 - 16:30	Coffee break
16:30 - 16:50	<b>On using Inplace Transformations for Model Co-Evolution.</b> <i>M. Wimmer, A. Kusel, J. Schoenboeck, W. Schwinger, W. Retschitzegger and G. Kappel</i>
16:50 - 17:10	<b>Towards using OWL DL as a metamodeling framework for ATL.</b> <i>Dennis Wagelaar</i>
17:10 - 18:00	<b>Discussion</b>

## TWOMDE 2010

### 3rd Workshop on Transforming and Weaving Ontologies and Model Driven Engineering

**Date: Wednesday 30 June**

**Location: Room 4.0.1**

The interest in integrating Ontologies and Software Engineering has gained more attention with commercial and scientific initiatives. The Semantic Web Best Practice and Deployment Working Group (SWBPD) in W3C included a Software Engineering Task Force (SETF) to explore how Semantic Web and Software Engineering can cooperate. The Object Management Group (OMG) has an Ontology Platform Special Interest Group (PSIG) aiming at formalizing semantics in software by knowledge representation and related technologies. The concrete results of such initiatives are the specification of the OMG Ontology Definition Metamodel, the OWL2 Metamodel, the introduction to Ontology Driven Architectures and a guideline for software developers.

Nevertheless, as MDE spreads, disciplines like model transformation, domain specific languages (DSLs) and traceability become essential in order to support different kinds of models in an model driven environment. Understanding the role of ontology technologies like knowledge representation, automated reasoning, dynamic classification and consistence checking in these fields is crucial to leverage the development of such disciplines. Thus, we highlight the following open questions: How can the scientific and technical results around ontologies, ontology languages and their corresponding reasoning technologies be used fruitfully in MDE? What is the role of ontologies in supporting model transformation or traceability? How can ontologies improve designing DSLs? Are current query languages able to query both kinds of models?

#### Workshop Organizers

- Jeff Z. Pan (University of Aberdeen, Great Britain)
- Uwe Assmann (University of Dresden, Germany)
- Fernando Parreiras (University of Koblenz, Germany)

#### TWOMDE Program

Time	Description
09:30 - 11:00	<b>TOOLS Europe 2010 Keynote Talk</b>
11:00 - 11:30	Coffee break
11:30 - 12:15	<b>Ontology-based Model Synchronisation.</b> <i>Federico Rieckhof, Mirko Seifert and Uwe Aßmann.</i>
12:15 - 13:00	<b>A Feasibility Study on the Validation of Domain Specific Languages Using OWL 2 Reasoners .</b> <i>Ye Liu, Sören Höglund, Ali H. Khan and Ivan Porres.</i>
13:00 - 14:30	Lunch
14:30 - 15:15	<b>A MDD approach for generating Rule-based Web Applications from OWL and SWRL.</b> <i>Joaquín Cañadas, José Palma and Samuel Túnez.</i>
15:15 - 16:00	<b>SPARQLAS - Implementing SPARQL Queries with OWL Syntax .</b> <i>Mark Schneider.</i>
16:00 - 16:30	Coffee break
16:30 - 17:00	<b>Establishing a Bridge from Graph-based Modeling Languages to Ontology Languages .</b> <i>Tobias Walter, Hannes Schwarz and Yuan Ren.</i>
17:00 - 17:30	<b>Towards an Eclipse Ontology Framework: Integrating OWL and the Eclipse Modeling Framework .</b> <i>Carsten Schneider.</i>
17:30 - 18:00	<b>Closing Session</b>

# IWMCP 2010

## International Workshop on Model Comparison in Practice

**Date: Thursday 1 July**

**Location: Room 4.1.4**

Model Driven Engineering elevates models to first class artefacts of the software development process. To facilitate multi-user collaboration and enable version management and seamless evolution of models and metamodels, support for robust and performant model comparison and differencing mechanisms is essential. Previous research has demonstrated that mechanisms used for comparison and differencing of text-based artefacts (e.g. source code) are not sufficient for comparing models, as they are unaware of the structure and the semantics of the compared artefacts. To date, several model-specific model comparison approaches have been proposed, each demonstrating different characteristics and focusing on particular sub-problems. For instance, model comparison techniques have been adopted for software refactoring, for transformation testing, to support the coupled evolution of metamodel and models, or to analyze existing artefacts with respect to some criteria. However the consensus is that this research area is still young and more research is required in order to achieve the full potential of model comparison.

The goal of the workshop is to gather together both researchers in the area of model comparison and differencing to report novel results, and especially adopters of existing approaches to present their experiences and provide insights on issues encountered when applying these approaches in practice.

### Workshop Organizers

- Davide Di Ruscio (University of L'Aquila, Italy)
- Dimitrios S. Kolovos (University of York, United Kingdom)

Time	Description
09:30 - 11:00	<b>TAP Keynote : Mike Ernst</b>
11:00 - 11:30	Coffee break
11:30 - 12:00	<b>Invited Talk : Jeff Gray</b>
12:00 - 12:20	<b>Mirador: A Synthesis of Model Matching Strategies.</b> <i>Stephen Barrett, Greg Butler and Patrice Chalin.</i>
12:20 - 12:40	<b>Fine-Grained Metamodel-Assisted Model Comparison.</b> <i>Zvezdan Protic, Tom Verhoeff and Mark van den Brand.</i>
12:40 - 13:00	<b>Operation-based Conflict Detection on Models.</b> Maximilian Koegel, Markus Herrmannsdoerfer, Otto von Wesendonk and Jonas Helming.
13:00 - 14:30	Lunch
14:30 - 14:50	<b>A Formal Approach to Three-Way Merging of EMF Models.</b> <i>Bernhard Westfechtel.</i>
14:50 - 15:10	<b>Colex: A Web-based Collaborative Conflict Lexicon.</b> <i>Petra Brosch, Philip Langer, Martina Seidl, Konrad Wieland and Manuel Wimmer.</i>
15:10 - 15:30	<b>Semantic Grouping of Model Changes.</b> <i>Patrick Könemann.</i>
15:30 - 15:50	<b>A homogeneous repository for collaborative MDD.</b> Javier Espinazo-Pagán and Jesús García-Molina.
16:00 - 16:30	Coffee break
16:30 - 16:50	<b>Generic tool for visualization of model differences.</b> <i>Zvezdan Protic, Mark van den Brand and Tom Verhoeff.</i>
16:50 - 17:10	<b>Towards a Generic Operation Recorder for Model Evolution.</b> <i>Markus Herrmannsdoerfer and Maximilian Koegel.</i>
17:10 - 18:00	<b>Discussion</b>

# QAOOSE 2010

## 13th Workshop on Quantitative Approaches on Object-Oriented Software Engineering and Related Paradigms

**Date: Friday 2 July**

**Location: Room 4.1.4**

QAOOSE+ 2010 is a direct continuation of twelve successful workshops held during previous editions of ECOOP in Paphos (2008), Berlin (2007), Nantes (2006), Glasgow (2005), Oslo (2004), Darmstadt (2003), Malaga (2002), Budapest (2001), Cannes (2000), Lisbon (1999), Brussels (1998) and Aarhus (1995).

Quantitative approaches in the field of object-oriented software engineering form a broad and active research area that develops and/or evaluates methods, practical guidelines, techniques, and tools to improve the quality of software products and the efficiency and effectiveness of software processes. The workshop is open to other technologies related to objects, such as component-based systems, aspect-oriented programming, Web-based systems, and agent-based systems.

The workshop will provide a forum to discuss the current state of the art and of the practice in the field of quantitative approaches in object-oriented software engineering. Participants are expected to share recent advances in the field: success or failure, lessons learned, and seek to identify new fundamental problems arising in the field and potential solutions. The workshop format includes the presentations and discussions of the selected position papers. It includes also a session for summarizing, evaluating, and assembling new research results and identifying future research opportunities.

### Workshop Organizers

- Manuel F. Bertoa (Universidad de Málaga, Spain)
- Coral Calero (Universidad de Castilla-La Mancha, Spain)
- Houari A. Sahraoui (Université de Montréal, Canada)
- Stéphane Vaucher (Université de Montréal, Canada)

### QAOOSE Program

Time	Description
09:30 - 11:00	<b>SC Keynote Talk</b>
11:00 - 11:30	Coffee break
11:30 - 12:00	<b>The identification of anomalous code measures with conditioned interval metrics.</b> <i>Carlos Lopez, Esperanza Manso, Yania Crespo.</i>
12:00 - 12:30	<b>Rule-Based System for Flaw Specification and Detection in Object-Oriented Programs.</b> <i>El Hachemi Alikacem and Houari A. Sahraoui.</i>
12:30 - 13:00	Session Discussion
13:00 - 14:30	Lunch
14:30 - 15:00	<b>Hierarchy-aware Measurement.</b> <i>Giovanni Falcone and Colin Atkinson.</i>
15:00 - 15:30	<b>An Empirical Study on Refactoring Objects to Aspects.</b> <i>Fernando Brito e Abreu and Sergio Bryton.</i>
15:30 - 16:00	Session Discussion
16:00 - 16:30	Coffee break
16:30 - 17:00	<b>Quality Attributes for Software Metamodels.</b> <i>Manuel F. Bertoa and Antonio Vallecillo.</i>
17:00 - 17:30	<b>Modeling the intrinsic quality of web portal data.</b> <i>Carmen Moraga, María Ángeles Moraga, Angélica Caro, Coral Calero.</i>
17:30 - 18:00	<b>Discussion</b>

# TTC 2010

## Transformation Tool Contest

**Date:** Thursday 1 July and Friday 2 July

**Location:** Room 4.1.1 – 4.1.2

Tools are crucial for the promotion of graph and model transformation in industry. Currently, a variety of tool environments exist for different graph and model transformation approaches. However, for potential users, working in application domains where transformation techniques may be useful, it is difficult to select the right tool for their purpose. Moreover, even for most of the tool experts it is true that they know about one or two tools but little about others. Finally, and maybe most importantly, the tool developers themselves can also be inspired by a more detailed understanding of related approaches.

The aim of this event is to compare the expressiveness, the usability and the performance of graph and model transformation tools along a number of selected case studies. That is, we want to learn about the pros and cons of each tool considering different applications. A deeper understanding of the relative merits of different tool features will help to further improve graph and model transformation tools and to indicate open problems.

### Workshop Organizers

- Pieter Van Gorp (Eindhoven University of Technology, The Netherlands)
- Arend Rensink (University of Twente, The Netherlands)
- Steffen Mazanek (Bundeswehr Transformation Centre, Germany)

### TTC Program

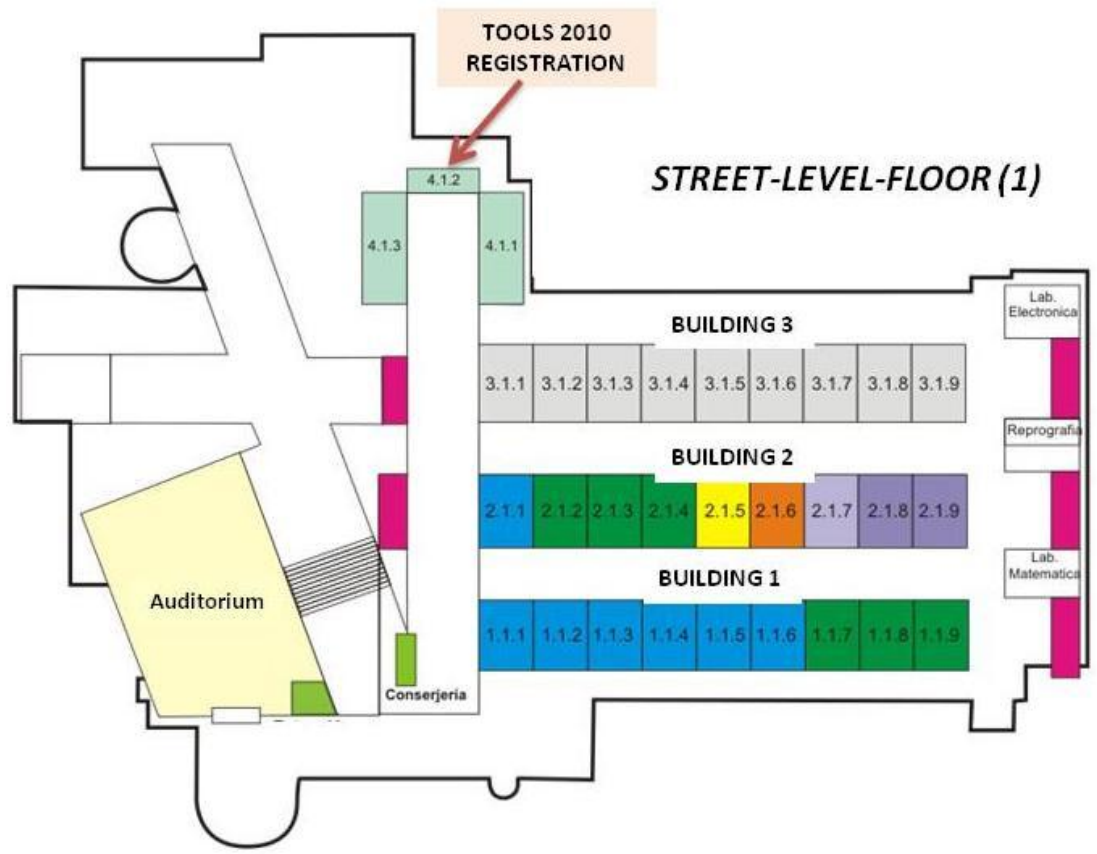
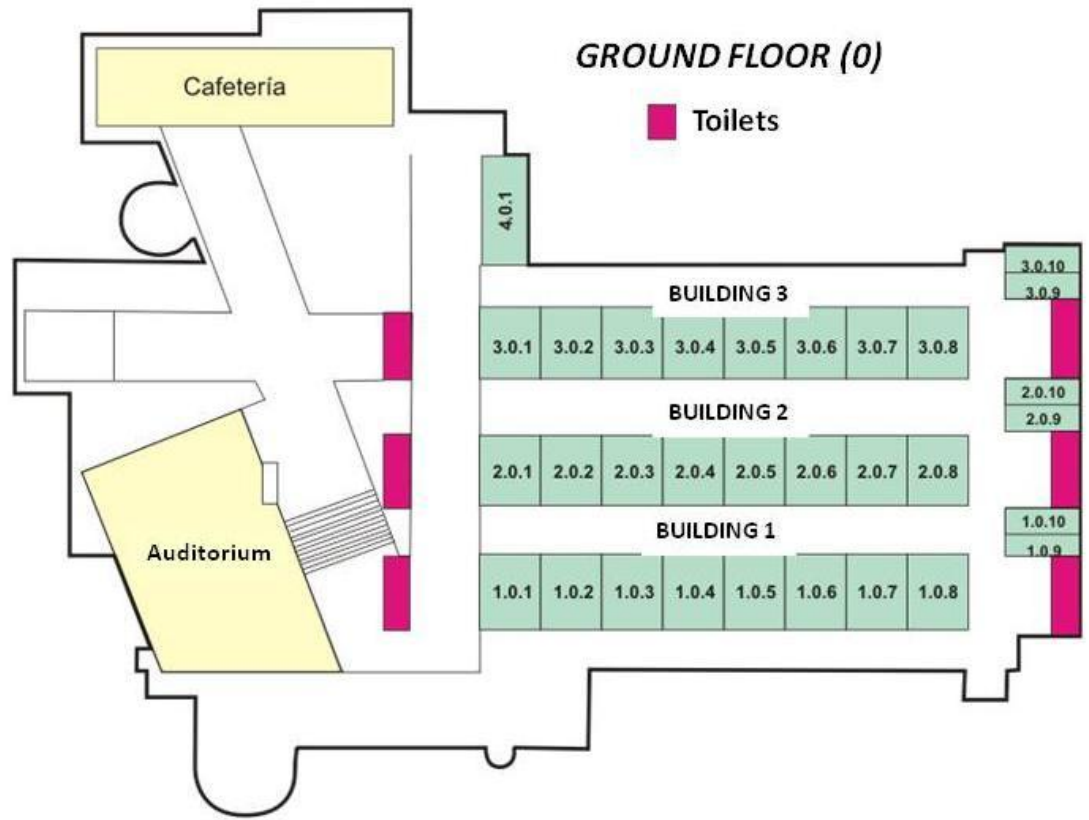
*Thursday 1 July*

Time	Description
09:30 - 11:00	Welcome, introduction to offline cases, ranking schema, and supportive software
11:00 - 11:30	Coffee break
11:30 - 13:00	In parallel: live contest (start) and offline solution review
13:00 - 14:30	Lunch
14:30 - 16:00	In parallel: live contest and offline solution review
16:00 - 16:30	Coffee break
16:30 - 18:00	In parallel: live contest and offline solution review

*Thursday 2 July*

Time	Description
09:30 - 10:00	In parallel: live contest (prepare presentation) and offline solution review
10:00 - 11:00	Live contest: solution presentation and ranking
11:00 - 11:30	Coffee break
11:30 - 12:00	Live contest: solution presentation and ranking
11:30 - 13:00	Offline cases: solution presentation and ranking
13:00 - 14:30	Lunch
14:30 - 16:00	Offline cases: solution presentation and ranking
16:00 - 16:30	Coffee break
16:30 - 18:00	Conclusions and Award ceremony

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