

readme.vstte



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Welcome to VSTTE

Bertrand Meyer, organizing chair

The international IFIP conference *Verified Software: Tools, Techniques and Experiments* promises to be a milestone on the road to better software. Triggered by Tony Hoare’s stubborn efforts to alert the world to the urgency of starting a “Grand Challenge” on software verification, it comes at a time when advances in program verification — not one single breakthrough, but the convergence of many new ideas and new applications of known ideas, accompanied by progress in basic technologies for both hardware and software — finally make the prospect of a “Verifying Compiler”, first discussed in a 1969 thesis by Jim King, seem reachable. We are here to discuss this goal and how best to progress towards it.

This **readme.vstte** brochure contains the practical information that you will need to make the most out of your four days at ETH. Go through it at the beginning of the conference if you can, otherwise please remember it when things go wrong (“*When everything else fails, read the manual*”). Whether or not it contains the answer to your problem of the moment, never hesitate to ask for the help of one of the members of our organizing committee, recognizable by their VSTTE T-shirts.

If your registration kit doesn’t look like the bulky package handed out by most conferences it’s because — boldly assuming that computer scientists have computers — we have put all the position papers on a 128-MB USB memory stick. We hope you will appreciate this lightening of your checked baggage and that you will keep the device as a memento of your stay in Zurich.

VSTTE is one of the events in the 150-th anniversary commemorations of ETH; from Pauli to Einstein, from Bernays to Wirth, there is much to celebrate and VSTTE is a fitting part of this commemoration of a century and a half of scientific progress. We are grateful to the Jubilee committee headed by Professor Meinrad Eberle for its support. We also thank the other sponsors: Microsoft Research, the US National Science Foundation, and the UK Engineering and Physical Sciences Research Council. The support of the IFIP TC-2 committee, obtained thanks to Robert Meersman and Judith Bishop, was essential. The team of volunteers under the leadership of Bernd Schoeller, ensured that everything would work smoothly.

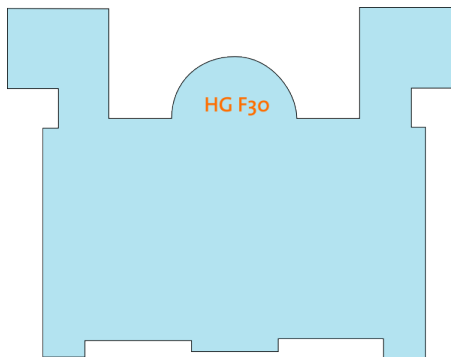
We are most grateful to the conference chairs, Tony Hoare and Jay Misra, for trusting us to hold the conference at ETH. We hope you will agree that this was the right decision, and will use your stay here both to learn more about software engineering at ETH and to discover the charms of Zurich.

Conference Venue

The “Verified Software: Theories, Tools, Experiments” conference will be held in the Auditorium Maximum (Audimax). The Audimax is the main lecture room of the ETH Zurich and is equipped with comfortable seats and microphones for questions.

To get to the Audimax, enter through the main entrance and follow the signs. Official number of the Audimax is HG F30.

The registration desk is set up directly in front of the lecture room. It will be open Monday morning between 8:00 and 10:00 am. Otherwise, the organization room is located in HG F33.2.



Note-taking

All discussions will be recorded for possible inclusion in the post-conference proceedings. For this reason, as well as for intelligibility, it is essential that you **use your seat's microphone whenever asking a question or making a comment**. Please **mention your name** each time.

Lunch

Lunch will be served between 12:45 and 14:00 in the “Dozentenfoyer” (faculty club) on the top of the ETH main building. To get to the Dozentenfoyer, please use the elevators directly in front of the Audimax.

Coffee Breaks

There are two coffee breaks each day, one in the morning and one in the evening. The coffee breaks will be held directly in front of the Audimax.

Welcome Buffet

The first evening includes an extended welcome buffet at the main building. The welcome buffet will be either served in or in front of the the Semper-Aula.

Dietary Requirements

Vegetarian meals will be available. If you want a vegetarian or other special diet, and have not indicated this on your registration form, please contact the conference organizers.



Conference Dinner

The conference dinner will be held in the restaurant "UTO Kulm" on top of the Uetliberg mountain.

The Uetliberg has an elevation of 872m. From there, you have an impressive panoramic view over the entire city of Zurich and the Lake of Zurich. With good weather conditions, you can see from the beautiful silhouette of the Swiss Alps all the way to the Black Forest in Germany.

To preserve the peacefulness of the site, it is not accessible by car. Therefore a train has been reserved to take us there. It will depart **at 18:46 from platform 2** of the main station (Hauptbahnhof).

Once you arrive at the upper train station, it takes 5 to 10 minute walk to get to the restaurant. Should you require support for this small climb, we can organize transportation from the top train station to the restaurant and back. Just tell us.

No train has been reserved for the trip down. Please use the regular line S10 to get back to the main station. It leaves every 30 minutes (:07 and :37) and takes 21 minutes to get to the main station.

The last train departure is at **23:37**. You will need roughly 10 minutes from the restaurant to the upper train station.



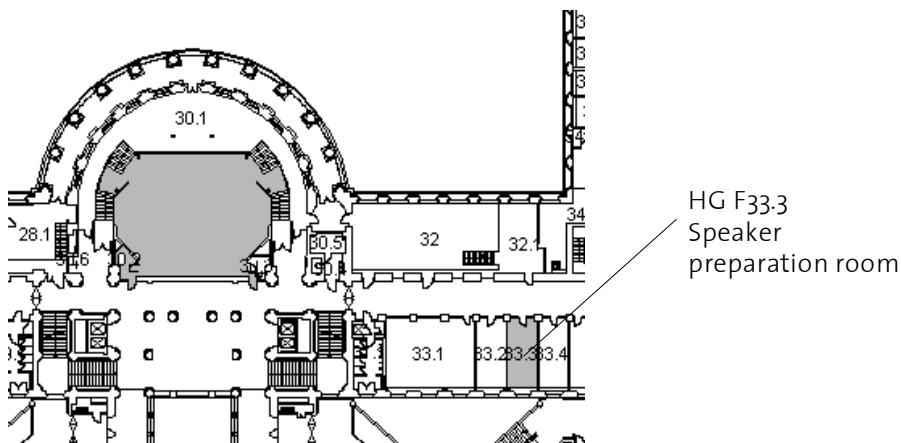
Information for Speakers

The Audimax is equipped with a digital projector that projects to the center of the room. A speaker's desk is available next to the projected area. The digital projector has a VGA connector on the speaker's desk and should work with a resolution of 1024x768 or below.

If you prefer overhead projectors, two are available in the Audimax room.

Room **HG F33.3** has been reserved for speaker preparation. It is just a few steps down the eastern hall from the Audimax and is available all day.

If you have any other needs for your talk, please contact the conference organization.



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.

Access to the web pages of the ETH Zurich is possible without any validation. To access resources outside the ETH, you will first have to validate at

<http://enter.ethz.ch>

Please use the following user name and password combination:

User name: **vstte**
Password: **ttevsevent**

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

Computer Labs

If you do not have a laptop with wireless access with you, you can use the computer labs distributed across the building.

- HG D13 (Linux)
- HG E19 (Windows)
- HG E23 (Windows)
- HG E26.1 (Linux)
- HG E26.3 (Windows)
- HG E27 (Linux, Windows)

The above user name and password will work.



About the ETH Zurich



The Eidgenössische Technische Hochschule Zürich (Swiss Federal Institute of Technology Zürich) is a science and technology university with an outstanding research record.

ETH Zurich forms a community of 20,000 people from 80 nations who study, do research or are employed there. About 360 professors in 15 departments teach mainly in the technical, mathematical and natural sciences areas.

The members of this community have the important task of maintaining and developing its prominent standing among the top universities of the world. Twenty-one Nobel Prize winners are connected with ETH Zurich.

The ETH Zurich was founded in 1855 as the "Eidgenössisches Polytechnikum" (Federal Polytechnic Institute). At that time, as the "child" of the new federal government, it was the only national university of Switzerland. Today, ETH Zurich, EPF Lausanne and four research institutions have been linked together to form the national ETH domain.

ETH Zurich celebrates this year its **150 year anniversary**. The Computer Science Department will celebrate its 25 year of existence next year, having in this short span increased the number of students from 23 to about 1000.

About Zurich

Zurich is the largest city in Switzerland and capital of the canton of Zurich. The city is Switzerland's main commercial center, and home to the country's largest airport.

'Züri' – as it is called in Swiss-German – is situated where the river Limmat leaves Lake Zurich, and is surrounded by wooded hills. The biggest of them, the Uetliberg mountain, is the site of our conference dinner. The modern heart of the city, including the main station and most churches, is on the West side of the river, while the hillier East is home to the little alleys of the Old Town and the hip drinking spots of Niederdorfstrasse.

Zurich is not the capital (this is actually Berne) but the industrial and commercial center of Switzerland. UBS, Credit Suisse, and many private banks have their headquarters in Zurich. Zurich is the world's primary center for offshore banking, mainly thanks to Swiss bank secrecy. The financial sector accounts for about one quarter of the city's economic activities. The Swiss Stock Exchange is also headquartered in Zurich.

Having the ETH in its heart makes Zurich the center of education and research activities in Switzerland. Besides ETH, there is the University of Zurich and several private research locations such as the IBM Zurich Research Laboratory and the ABB research center in Baden.



Addresses

Organizing committee

verified@se.inf.ethz.ch

Organizing Chair

Bertrand Meyer
RZ Building, RZ J22
Clausiusstrasse 59
8092 Zürich
Tel: +41 44 632 04 10
E-Mail: bertrand.meyer@inf.ethz.ch

System Administrator

Luc de Louw
RZ Building, RZ J8
Clausiusstrasse 59
8092 Zürich
Tel: +41 44 632 47 23
E-Mail: luc.delouw@inf.ethz.ch

Organizing Assistant

Bernd Schoeller
RZ Building, RZ J5
Clausiusstrasse 59
8092 Zürich
Tel: +41 44 632 47 55
Mobile: +41 78 717 72 92
E-Mail: bernd.schoeller@inf.ethz.ch

Administrative Assistant

Claudia Günthart
RZ Building, RZ J7
Clausiusstrasse 59
8092 Zürich
Tel: +41 44 632 83 46
Fax: +41 44 632 14 35
E-Mail: claudia.guenthart@inf.ethz.ch

Should you have any problems or questions during the conference, feel free to contact **Bernd Schoeller** at **+41 78 717 72 92** (mobile).

Conference Venue

ETH Zürich
Auditorium Maximum (Audimax)
HG F30
Rämistrasse 101
8092 Zürich
Tel: +41 44 632 11 11

Conference Dinner

Hotel-Restaurant UTO Kulm
8143 Zürich
Tel: +41 44 457 66 66

Monday, Oct. 10th, 2005, Morning

8:00 Registration

9:00 Welcome (**Bertrand Meyer**)

Chair: **Jayadev Misra**

9:15 **Tony Hoare**, Microsoft Research
Verified Software: Theories, Tools, Experiments

9:45 Keynote: **Amir Pnueli**, New York University, and Weizmann Institute of Science
Development of Reactive Systems: Property-Based vs. Model-Based

10:15 Summary/Discussion

10:30 Coffee Break

Chair: **Jim Woodcock**

11:00 Keynote: **Wolfgang Paul**, Universität Saarbrücken
Towards a Worldwide Verification Technology

11:30 **Steven Zdancewic**, University of Pennsylvania
It is Time to Mechanize Programming Language Metatheory

11:45 **Michael Ernst**, Massachusetts Institute of Technology
Verification of Legacy Programs

12:00 **Zhiming Liu**, UNU-IIST Macao
Tools for Formal Software Engineering

12:15 Summary/Discussion

12:30 Free time

12:45 Lunch at the Dozentenfoyer

Monday, Oct. 10th, 2005, Afternoon

- 14:00 Keynote: **Thomas Ball**, Microsoft Research
The Verified Software Challenge: A call for a holistic approach to reliability
- 14:30 **Rajeev Joshi**, NASA/JPL Laboratory for Reliable Software
A Mini Grand Challenge: Build a Verifiable Filesystem
- 14:45 **Cordell Green**, Kestrel Institute
A Constructive Approach to Correctness, Exemplified by a Generator for
Certified Java Card Applets
- 15:00 **Cliff Jones**, Newcastle University
What can we do (technically) to get "the right specification"?
- 15:15 Summary/Discussion
- 15:30 Coffee Break
- 16:00 Panel: Challenge Codes
**Bertrand Meyer, Willem Paul de Roever, Bernhard Steffen, Colin
O'Halloran, Michael Butler**
Moderator: **Jim Woodcock**
- 17:00 Summary/Discussion
- 18:00 Welcome Buffet, next to the Semper Aula

Tuesday Oct. 11th, 2005, Morning

Chair: **Ralph Back**

- 9:00 Keynote: **Anthony Hall**, Oxford
Software Verification and Software Engineering: A Practitioner's Perspective
- 9:30 **Colin O'Halloran**, QinetiQ
Where is the value in a program verifier?
- 9:45 **Kathi Fisler**, Worcester Polytechnic University
Verification and Features
- 10:00 **Jean-Raymond Abrial**, ETH Zürich
Managing the Construction of Large Computerized Systems
- 10:15 Summary / Discussion
- 10:30 Coffee Break

Chair: **Masami Hagiya**

- 11:00 Keynote: **Tom Reps**, University of Wisconsin
Interprocedural analysis, and some remaining challenges
- 11:30 **Peter Müller**, ETH Zürich
Reasoning about Object Structures Using Ownership
- 11:45 **David Naumann**, Stevens Institute of Technology
Modular Reasoning in Object-Oriented Programming
- 12:00 **Peter O'Hearn**, Queen Mary University of London
Scalable Specification and Reasoning: Challenges for Program Logic
- 12:15 Summary/Discussion
- 12:30 Free time
- 12:45 Lunch at the Dozentenfoyer

Tuesday, Oct. 11th, 2005, Afternoon

Chair: **Panagiotis Manolios**

- 14:00 Keynote: **Greg Nelson**, HP SRC Classic, Palo Alto
Extended static checking
- 14:30 **Gary Leavens**, Iowa State University
Lessons from the JML project
- 14:45 **Wolfram Schulte, Rustan Leino**, Microsoft Research
The Spec# Programming System: Challenges and Directions
- 15:00 **Joseph Kiniry**, University College Dublin
Integrating Static Checking and Interactive Verification
- 15:15 Summary/Discussion

- 15:30 Coffee Break

- 16:00 Panel: Methodologies
Moderator: **Wolfram Schulte**
- 17:00 Summary/Discussion (until 18:00)

Wednesday Oct. 12th, 2005, Morning

Chair: **Carolyn Talcott**

- 9:00 Keynote: **John Rushby**, SRI International
Integrating Verification Components
- 9:30 **Yves Bertot**, INRIA
Dependent types, theorem proving, and applications for a verifying compiler
- 9:45 **Bart Jacobs**, Radboud University
Code-Carrying Theory
- 10:00 **Douglas Smith**, Kestrel Institute, Palo Alto
Generating Programs plus Proofs by Refinement
- 10:15 Summary / Discussion

- 10:30 Coffee Break

Chair: **Ganesan Ramalingam**

- 11:00 Keynote: **Patrick Cousot**, École normale supérieure, Paris
The Verification Grand Challenge and Abstract Interpretation
- 11:30 **Tom Reps**, University of Wisconsin
Static Analysis of Executables
- 11:45 **Martin Rinard**, Massachusetts Institute of Technology
Implications of a Data Structure Consistency Checking System
- 12:00 **Arnaud Venet**, Kestrel Technology LLC
Towards a Homology Theory for Static Analysis
- 12:15 Summary/Discussion

- 12:30 Free time
- 12:45 Lunch at the Dozentenfoyer

Wednesday, Oct. 12th, 2005, Afternoon

Chair: **Marsha Chechik**

- 14:00 Keynote: **Gerard Holzmann**, NASA/JPL Laboratory for Reliable Software
Reliable Software Systems Design
- 14:30 **Rajeev Alur**, University of Pennsylvania
Trends and Challenges in Algorithmic Software Verification
- 14:45 **Helmut Veith**, TU München
Model Checking: Back and Forth Between Hardware and Software
- 15:00 **Grigore Rosu**, University of Illinois at Urbana-Champaign
Computational Logical Framework and Generic Program Analysis
Technologies
- 15:15 Summary/Discussion

- 15:30 Coffee Break

- 16:00 Panel: Proof Tools
Tevfik Bultan, Daniel Kröning, Tiziana Margaria, Harald Ruess, Carsten Schuermann, Ofer Strichman, Aaron Stump
Moderator: **Natarajan Shankar**
- 17:00 Summary/Discussion (until 18:00)

- 18:46 Train leaves the main station for the conference dinner
- 19:30 Conference dinner at UTO Kulm
Speech by **Niklaus Wirth**

Thursday Oct. 13th, 2005

Chair: **Constance Heitmeyer**

9:00 Keynote: **Mathai Joseph**, Tata Consultancy Services
Formal Techniques in Large Scale Software Engineering

9:30 Panel: Dependability and Verification
Moderator: **Constance Heitmeyer**

10:30 Coffee Break

Chair: **Jian Zhang**

11:00 Keynote: **J Moore**, University of Texas at Austin
A Mechanized Program Verifier

11:30 **Jifeng He**, UNU-IIST, Macao
Theories and Techniques of Program Modelling, Design and Verification

11:45 **Kokichi Futatsugi**, JAIST
Verifying Design with Proof Scores

12:00 **Bertrand Meyer**, ETH Zürich
Component = Contract + Implementation + Proof Obligation

12:15 Summary/Discussion

12:30 Free time

12:45 Lunch

14:00 Panel: Milestones and Road Map
Greg Nelson, Rajeev Joshi, Peter O'Hearn, Joseph Kiniry, J Moore, Natarajan Shankar
Moderator: **Tony Hoare** and **Jayadev Misra**

16:00 End of the conference

Chairs

Conference co-chairs

Tony Hoare and **Jayadev Misra**

Program chair

Natarajan Shankar

Publication chair

Jim Woodcock

Organizing chair

Bertrand Meyer

We would like to thank the following companies and institutions for their support



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ETH

Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich

The conference is part of the official celebrations for the 150th anniversary of the ETH Zürich.



VSTTE is an official working conference of Working Group 2.3 (Programming Methodology) of the International Federation for Information Processing.



Impressum

ETH Zürich
Chair of Software Engineering
CH-8092 Zürich



Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich