Meeting held and scheduled

TC-1 held its annual 2013 meeting on 15 March 2013 in Rome, Italy, preceding ETAPS 2013 joint conference.

Attendance: 12 members; apologies: 40 members; absent: 3 members.

Next meeting not yet scheduled.

Changes in membership and officers

Changes in officers

- Jacques Sakarovitch has been elected new TC-1 Chair, effective 1 January 2013, in replacement of Mike Hinchey.
- Karine Breitmann has put an end to being Secretary of TC-1.
- Art Werschulz has been elected Chair of WG 1.1 ‘Continuous Algorithms and Complexity’, in succession of Krzysztof (Kris) Sikorski who passed away on 21 July, 2012.
- Jarko Kari has been reelected Chair of WG 1.5 ‘Cellular automata’.
- Gary Leavens has been appointed Chair of WG 1.9/2.15 ‘Verified software’, in replacement of Jim Woodcock.

TC-1 urgently needs to find a secretary.

TC-1 membership changes

The updating and renewal of TC-1 membership is currently under way.

- Wilfried Brauer (Germany representative), Arto Salomaa (Finland representative) and Jan van Leuwen (Netherland B member) have been appointed C members by the TC.
- Ricardo Baeza-Yates (Chile representative) has stepped down.
- Portugal has appointed Luis Barbosa
- Swiss Informatic Society has appointed Gerhard Jäger
- Brazilian Computing Society (SBC) has appointed Augusto Sampaio

Lists of TC-1 members are given in Appendix A.
Working groups

WG 1.1 — Continuous Algorithms and Complexity
Chair Prof. Art Werschulz
Secretary Dr. Anargyros Papageorgiou

WG 1.2 — Descriptional Complexity
Chair Prof. Giovanni Pighizzini Università degli Studi di Milano, Italy
Vice-Chair Prof. Helmut Jürgensen University of Western Ontario, London, Canada
Secretary Dr. Andreas Malcher Universität Giessen, Germany

WG 1.3 — Foundations of System Specification
Chair Dr. Till Mossakowski
Secretary Prof. Christine Choppy

WG 1.4 — Computational Learning Theory
Chair Prof. Arun Sharma
Vice-Chair Prof. Paul Vitanyi

WG 1.5 — Cellular Automata and Discrete Complex Systems
Chair Prof. Jarkko Kari
Secretary Prof. Nicolas Ollinger

WG 1.6 — Term Rewriting
Chair Prof. Jürgen Giesl
Secretary Prof. Schneider-Kamp

WG 1.7 — Theoretical Foundations of Security Analysis and Design
Chair Prof. Pierpaolo Degano, University of Pisa
Vice-Chair Prof. Véronique Cortier, University of Nancy
Secretary Prof. Riccardo Focardi, University of Venezia

WG 1.8 — Concurrency Theory
Chair Prof. Jos Baeten
Secretary Dr. Bas Luttik
WG 1.9 & 2.15 — Verified Software

Chair (past) Prof. Jim Woodcock / Dr. Natarajan Shankar
Chair (newly appointed) Prof. Gary T. Leavens

Appendix B gives reports from WGs and shows they are quite lively and active.

Events

TCS 2012, a conference co-located with WCC in Amsterdam, had not a large number of submissions, but of pretty good quality. It did not suffer financial loss thanks to CWI.

In the discussion about TCS future, it has been acknowledged that colocation with WCC is not necessary but that TCS is, or has to be, different from standard standalone events. The idea is raised to have TCS together with workshops organised with WG’s or that TCS call asks also for a presentation of each WG’s activities. No conclusion is drawn, nor decision taken; the discussion is somehow considered to be on-going.

TC meetings attendance

Existing documents do not allow to provide reliable statistics.
Appendix A

Member lists

Lists in the following pages are as on 12 September 2013, are still under updating process and may show mistakes.
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<tr>
<th>Country</th>
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<td>Argentina</td>
<td>AR</td>
<td>Joos Heintz</td>
<td><a href="mailto:joos@dc.uba.ar">joos@dc.uba.ar</a></td>
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<tr>
<td>Austria</td>
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<td>Werner Kuich</td>
<td><a href="mailto:kuich@tuwien.ac.at">kuich@tuwien.ac.at</a></td>
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<tr>
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<td>James Harland</td>
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<td><a href="mailto:bsendov@argo.bas.bg">bsendov@argo.bas.bg</a></td>
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<tr>
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<td>Augusto Sampaio</td>
<td><a href="mailto:acas@cin.ufpe.br">acas@cin.ufpe.br</a></td>
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<tr>
<td>Canada</td>
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<td>tomaibaum.org</td>
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<tr>
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<td>Gerhard Jäger</td>
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</table>
## Continuous Algorithms and Complexity

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---

## Verified Software

**Gary LEAVENS**

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### WG List

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<tr>
<th>WG Chairs</th>
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<td>Continuous Algorithms and Complexity</td>
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Appendix B

Reports from Working Groups
B.1 WG 1.1 — Continuous Algorithms and Complexity

B.1.1 Chair and secretary

Chair Prof. Art Werschulz

Secretary Dr. Anargyros Papageorgiou

B.1.2 Overview of WG activities in 2012

After a yearlong battle with cancer, WG1.1 Chair Krzysztof (Kris) Sikorski passed away on July 21, 2012. A native of Poland, Sikorski received his Ph.D. in computer science at the University of Utah in 1982. He then joined Columbia University as a computer science faculty member, where he taught for 3 years before returning to the University of Utah, where attained the rank of Professor. His research focused on parallel scientific computation and computational complexity, with special emphasis on optimal methods for solving fixed-point problems.

After Kris’s passing, Art Werschulz was selected as the new WG1.1 Chair. Art is a Professor of Computer Science at Fordham University, as well as an Adjunct Senior Research Scientist in the Columbia University Computer Science Department. His research focuses on information-based complexity, with special emphasis on partial differential and integral equations.

MCQMC 2012 (Monte Carlo and Quasi-Monte Carlo) was held 13-17 Feb 2012. As in previous MCQMC meetings, there was a special session on the tractability of multivariate problems, organized by Erich Novak (University of Jena, Germany) and Henryk Wozniakowski (University of Warsaw, PL; Columbia University, US).

A Dagstuhl Seminar on Algorithms and Complexity for Continuous Problems was held 23-28 Sept 2012. The organizers were Alexander Keller (NVIDIA GmbH, GE), Frances Kuo (University of New South Wales, AU) Andreas Neuenkirch (Universität Mannheim, DE), and Joseph F. Traub (Columbia University, US). This was the 11th such Dagstuhl Seminar over a period of 21 years. It brought together researchers from different communities working on computational aspects of continuous problems, including computer scientists, numerical analysts, applied and pure mathematicians. The current seminar attracted 51 participants from more than 10 different countries all over the world. About 30 including PhD students. There were 40 presentations covering in particular the following topics: biomedical learning problems, random media, computational finance, noisy data, tractability, quantum computation, computational stochastic processes, and high-dimensional problems.
B.2 WG 1.2 — Descriptional Complexity

B.2.1 Chair and secretary
Chair Prof. Giovanni Pighizzini Università degli Studi di Milano, Italy
Vice-Chair Prof. Helmut Jürgensen University of Western Ontario, London, Canada
Secretary Dr. Andreas Malcher Universität Giessen, Germany

B.2.2 Overview of WG activities
Descriptional complexity has historically been a multidisciplinary area of study, with contributions from automata theory, computational complexity, cryptography, information theory, probability, statistics, pattern recognition, machine learning, computational learning theory, computer vision, neural networks, formal languages and other fields. The aims of the working group are therefore to promote research in all aspects of descriptional complexity through conferences, publications, and more informal means of scientific interaction such as electronic news groups. Since 2002 particular emphasis was and is being placed on the descriptional complexity of bio-inspired computing models and the relationship between descriptional complexity and software reliability.

B.2.3 Meetings of WG in 2012

The next formal WG 1.2 meeting will be held on the occasion of DCFS2013 - International Workshop on Descriptional Complexity of Formal Systems, London/Ontario, Canada, July 22-25, 2013.

B.2.4 Changes in WG Membership
In 2012, the list of members of the group, which was more than 10 years old, has been revised. To update the list, all the members have been asked whether or not they are interested in remaining in the working group. As a result of this procedure, the following members have been removed:

CA Fahiem Bacchus DE Holger Petersen DE Bernd Reichel
DE Bettina Sunckel ES Jose Balcazar ES Josep Diaz-Cort
ES Jose Sempere FI Pekka Orponen HU Imre Csiszar
NL Michail van Lambalgen PL A.W. Mostowski US Thomas M. Cover
US Michael J. Pazzani US Daniel Rosenkrantz US Ray Solomonoff
US W. Zurek US Michael Fischer US David Haussler
US Leonid A. Levin
Moreover, the following members have been removed, since it was not possible to find a current address of them. Furthermore, these people seem no longer active in the field of descriptional complexity. Additionally, some of the people died.

<table>
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<tr>
<th>AT</th>
<th>Walter Bucher</th>
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<td>J. Wheeler</td>
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</table>

Finally, the following people have been suggested to be appointed as new members of the working group. All these people are very active in the field of descriptional complexity and their membership will be an enrichment for the working group.

| DE  | Markus Holzer         | DE  | Martin Kutrib    | DE  | Andreas Malcher |
| HU  | György Vaszil         | PT  | Nelma Moreira    | PT  | Rogerio Reis   |
| SK  | Viliam Geffert        |     |                  |     |               |

All these proposed membership changes have been approved by the TC1 head, Prof. Mike Hinchey.

**B.2.5 WG Topics**

The scope of the working group encompasses all aspects of descriptional complexity, both theory and application. These aspects include but are not limited to

- descriptive complexity of formal systems and structures
- various measures of descriptional complexity of automata, grammars, languages and of related systems
- trade-offs between descriptional complexity and mode of operation
- circuit complexity of Boolean functions and related measures
- succinctness of description of (finite) objects
- descriptive complexity in resource-bounded or structure-bounded environments
- structural complexity
- descriptive complexity of formal systems for applications (e.g. software reliability, software and hardware testing, modelling of natural languages)
- descriptive complexity aspects of nature-motivated (bio-inspired) architectures and unconventional models of computing
Furthermore the WG tries to promote interaction and the exchange of information across traditional discipline boundaries and to provide a point of contact for all researchers in all disciplines interested in descriptional complexity and its applications.

B.2.6 Events related to the Working Group in 2012

  
  The workshop has been organized by Nelma Moreira and Rogério Reis (University of Porto). The scientific part was consisting of 4 invited lectures and 20 regular contributions, selected by a program committee after a standard reviewing process. The proceedings have been published on LNCS series. A special issue of the Journal of Automata, Languages and Combinatorics, devoted to extended versions of selected papers is underway. About 50 participants attended the workshop. Many of them are members of the WG.


- DLT’2012: Conference on Developments in Language Theory, Taipei, Taiwan, August 14-17, 2012

B.2.7 Planned Events in 2013

  
  The workshop will be organized, under supervision of the DCFS steering committee, by Helmut Jürgensen, who will be the co-chair of the Program Committee together with Rogério Reis.

B.2.8 Publications in 2012


- Special issue of the journal Theoretical Computer Science (Vol. 449, 31 August 2012), with selected papers from the workshop Descriptional Complexity of Formal Systems 2011 (Guest Editors: Markus Holzer, Martin Kutrib, Giovanni Pighizzini).


B.3  WG 1.3 — Foundations of System Specification

B.3.1  Chair and secretary

Chair  Dr. Till Mossakowski

Secretary  Prof. Christine Choppy

Home page: http://ifipwg13.informatik.uni-bremen.de/

B.3.2  WG Membership

• 39 members
  – 1 Australia
  – 4 America (1 BR, 1 CA, 2 US)
  – 1 Africa (DZ)
  – 1 Asia (JP)
  – 32 Europe (1 BE, 7 DE, 2 ES, 4 FR, 4 IT, 2 NL, 2 PL, 10 UK)

We actively approach observers outside Europe (but meetings are mostly in Europe...)

• 11 emeriti plus 3 deceased emeriti

• 12 observers

B.3.3  Events organised by the Working Group

• Rome, Italy, 16 March 2013 (with ETAPS)
• Salamanca, Spain, 11 - 13 June 2012 (with WADT)
• Winchester, United Kingdom, 03 - 04 September 2011 (with CALCO)
• Aussois, France, 06 - 09 January 2011
• Etelsen near Bremen, Germany, 04 - 06 July 2010 (with WADT)
B.5  WG 1.5 — Cellular Automata and Discrete Complex Systems

B.5.1  Chair and secretary

Chair  Prof. Jarkko Kari
Secretary  Prof. Nicolas Ollinger

B.5.2  Overview of WG activities in 2012

The Working Group met during the AUTOMATA and JAC 2012 conference in La Marana, Corsica on September 19-21: http://www.i3s.unice.fr/automata2012/

The conference was a merger of AUTOMATA and JAC (Journées Automates Cellulaires) conference series, and hence attracted a good number of submissions and participants. In the conference 19 full papers and 13 exploratory papers were presented out of 42 submissions. The conference attracted 49 participants.

The WG meeting was attended by 17 members of the group. Main decisions of the meeting are the following (the detailed minutes by the secretary are attached below):

- The WG decided to propose to TC1 that Jarkko Kari will be nominated as a chair of the WG for a second 3 year period.
- The membership list was updated: 4 members retired and 5 new members entered.
- It was decided that AUTOMATA 2013 will be organized in Gieen, Germany. The conference will be organized on September 17-19 by Martin Kutrib and Andreas Malcher.

Jarkko Kari, Chair of WG 1.5

B.5.3  Minutes of the 2012 meeting of IFIP WG 1.5

Minutes of the 2012 meeting of IFIP WG 1.5


Location: AUTOMATA & JAC 2012, La Marana, Corsica, France

Time: September 20, 2012, 18:30

Topics: The following topics were discussed:

Next chair

JK asks for candidates/remarks/comments. MK proposes that JK continues as a chair of the WG. JK asks for potential candidates but agrees to continue if there is no other candidate. The proposal is accepted unanimously without a vote. JK will be proposed to TC chair as the new chair of the WG.
Membership list

JK explains that at the rebirth of the WG, we agreed to check membership every 3 years. An email was sent and 4 people wanted to leave the group because of retirement. Some (8) people did not respond, JK suggests to be lenient and wait until next time before removing them from the group. One people was impossible to reach by email: G. Skordev. TW will try to find a valid email.

Few peoples contacted the chair to enter the WG: Julien Cervelle, Pierre Guillon, Gregory Lafitte, Gaëtan Richard, Guillaume Theyssier. All accepted unanimously, no vote needed.

AUTOMATA 2013

One proposal to organize AUTOMATA 2013 by AM and MK in Giessen, Germany (north of Frankfurt, in Hessen). The proposal is presented. The University of Giessen founded in 1607. The workshop would happen early September 2013 on campus. Workshop duration of 2.5 to 3 days with invited talks, full papers and short presentations. Fee : 220 to 250 comprising coffee breaks, lunches, workshop dinner, proceedings.

Discussion follows on the format of the conference, the current format is unanimously agreed.

Discussion follows on open access publication. This year we have EPTCS, before it was DMTCS. Discussion continues about classification of conferences in Brasil, etc.

The proposal for next AUTOMATA in Giessen is unanimously accepted without vote.

Future of AUTOMATA

Discussion about merging JAC with AUTOMATA. BD explains that he is in favor to merge the events and that JAC occurs every two years. BD proposes that in two years we plan joint events and that we prepare to go further in the future, to enlarge the community. EG proposes to have a list of PhD students working on the topics of AUTOMATA to have a better view of the community and that we present the subjects on which students work. JK proposes to send an email. JK agrees to have AUTOMATA and JAC combined. (snip)

JK calls for proposals for next events and proposes that, in the future, the WG decides for the next event two years in advance. The idea is to decide AUTOMATA 2014 and 2015 next year. NF asks if every other year would be sufficient for AUTOMATA. JK explains that the WG should meet every year.

JK closes the meeting.
B.6  WG 1.6 — Term Rewriting

B.6.1  Chair and secretary

Chair  Prof. Jürgen Giesl

Secretary  Prof. Schneider-Kamp

Home page: http://verify.rwth-aachen.de/IFIP-WG1.6/

B.6.2  Overview of WG activities in 2012

The following is the minutes of the 14th Meeting of WG 1.6 held in Nagoya (Japan) on May 28, 2012 (recorded by Bernhard Gramlich).

This year’s WG meeting was chaired by Hans Zantema, representing the WG-chair Juergen Giesl who could not attend the meeting.

For the first time the WG meeting was partitioned into a general part of the program (9:00-16:30), also open to non-WG-members, and a closed WG Business Meeting only for WG-members (16:30-17:45).

The general part of the program featured a couple of invited talks by invitees of the WG meeting this year (Ashish Tiwari, Nao Hirokawa, Frederic Blanqui), and of contributed talks (by Helene Kirchner, Bernhard Gramlich, Kristoffer Rose) as well as some discussions on currently important topics. In this general part there were 27 participants. For details about the talks as well as about the program / the agenda see http://verify.rwth-aachen.de/Events/WG16-2012/IFIP-Program.pdf.

In the minutes, subsequently we will summarize the discussions and the WG Business Meeting.

B.6.3  Business Meeting

Participants (9):
Bernhard Gramlich, Delia Kesner, Claude Kirchner, Helene Kirchner, Salvador Lucas, Aart Middeldorp, Vincent van Oostrom, Kristoffer Rose, Hans Zantema

- ISR 2014: Hans Zantema proposes a (secret) vote on the two options (”Valparaiso”, ”Leipzig”) the result of which is:
  (i) ”Valparaiso”: 4
  (ii) ”Leipzig”: 3
  (iii) abstentions: 2

That means ISR 2014 will take place in Valparaiso, Chile, organized by Carlos Castro.

Aart Middeldorp proposes a change for the bylaws of ISR: ”bi-annual” should be replaced by ”at least bi-annual”, to be discussed in the ISR-SC and voted upon in the IFIP-WG-1.6 Meeting.
Salvador Lucas emphasizes that the ECTS-issue w.r.t. ISR should also be discussed in the ISR-SC.

- **Minutes of IFIP-WG-1.6 Meeting 2011:** They are approved. Suggestion for the future: Minutes to be sent by email to the WG-members.

- **Membership:** Hans Zantema suggests that from next time on the rule "no presence at 3 WG meetings in a row - membership expires" will be executed. This suggestion is unanimously approved.

- **Invitees 2013:** Hans Zantema announces that this will be discussed and decided upon by email communication.

- **List of open problems:** It is agreed upon that
  - Hans Zantema will take over the role of Ralf Treinen;
  - Hans may contact appropriate people to become responsible for some concrete open problem;
  - the (new) name should be: List of Open Problems in Rewriting. Delia Kesner suggests to buy a www domain name for the IFIP-WG and to ask IFIP whether they support that.

- **Next WG-Meeting:** It is agreed that the the next WG-Meeting should take place 1-2 days before or after RTA 2013 in Eindhoven, The Netherlands, preferably before RTA and its associated workshops.
B.7  WG 1.7 — Theoretical Foundations of Security Analysis and Design

B.7.1 Chair and secretary
Chair  Prof. Pierpaolo Degano, University of Pisa
Vice-Chair  Prof. Véronique Cortier, University of Nancy
Secretary  Prof. Riccardo Focardi, University of Venezia

Home page: http://www.dsi.unive.it/IFIPWG1.7/

B.7.2 Overview of WG activities in 2012

WG 1.7 is on the theoretical foundations of security analysis and design, and it has been founded in 1999. It mainly aims at investigating the theory of security, as well as of privacy and trust, at discovering and promoting new areas of application of theoretical techniques in computer security and at supporting the systematic use of formal techniques in the development of security related applications.

B.7.3 WG Membership

Currently WG 1.7 has 29 members, from 14 countries (USA: 7 1/2; France: 5; Italy, UK: 3; Germany: 2; Australia, Belgium, China, Denmark, Ireland, Luxemburg, Netherlands, Switzerland: 1; Israel: 1/2); two new members joined us at the last meeting, on 19 March in Rome, and one resigned.

B.7.4 Events related to the Working Group

The main activities of the WG in organising scientific events concern establishing and running:

- Principles Of Security and Trust (POST), the sixth main conference of ETAPS, established in 2012 after 11 years of the Workshop on Issues in the Theory of Security (WITS) that became in 2011 an associated conference at ETAPS, under the name of Theory of Security and Applications (TOSCA). Almost always, these WS originated volumes in the LNCS series and special issues of archive journals. The issue of POST 2013 had a number of participants ranging from 50 to 70. The creation of POST is one of the major outcomes of the WG.

- a special issue of the Journal of Computer Security devoted to selected papers of TOSCA, and one devoted to selected papers of POST 2012, both under finalization; similarly there will be a special issue of the Journal of Computer Security for POST 2013.
• Workshop on Hot Issues in Security Principles and Trust (HotSpot), a satellite
event of ETPAS, that in its first issue this year had 13 submissions and about
30-35 participants; - International School on Foundations of Security Analysis and
Design FOSAD, organised since 2000.

The WG is involved in the organisation of POST, HotSpot and FOSAD also in the
years to come.

The members of the WG are actively involved in national and international projects
on security; as members of the editorial boards of many highly reputed journals; as
well as in the dissemination of the theory and methodology of security in Universities,
international schools (e.g. the mentioned FOSAD or the PhD school BISS (more than
40 participants, mainly from Italy) that takes place yearly), seminars etc.
B.8 WG 1.8 — Concurrency Theory

B.8.1 Chair and secretary

Chair Prof. Dr. Jos Baeten
Secretary Dr. Bas Luttik

B.8.2 Overview of WG activities in 2012

IFIP Workshop on Concurrency Theory at CONCUR Conference.
Trends Workshop, Business meeting
Same next year together with CONCUR in Buenos Aires.

B.8.3 WG Membership

The following members have agreed to give up their membership to free up space for new members:

- Martin Abadi (University of California at Santa Cruz, US)
- Jan Bergstra (University of Amsterdam, NL)
- Andy Gordon (Microsoft Research, UK)
- Jan Friso Groote (TU Eindhoven, NL)
- Matthew Hennessy (Trinity College Dublin, IE)
- Anna Ingolfsdottir (Reykjavik University, IS)
- George Milne (University of Western Australia, AU)
- Eugene Stark (SUNY at Stony Brook, US)

We have invited the following four new members:

- Silvia Crafa (University of Padova, IT)
- David de Frutos-Escrig (Universidad Complutense de Madrid, ES)
- Ursula Goltz (TU Braunschweig, DE)
- Mohammad Reza Mousavi (TU Eindhoven, NL)
B.9  WG 1.9 & 2.15 — Verified Software

B.9.1  Chair and secretary

Chair (past) Prof. Jim Woodcock / Dr. Natarajan Shankar

Chair (newly appointed) Prof. Gary T. Leavens

B.9.2  Overview of WG activities in 2012

The Working Group 1.9/2.15 on Verified Software directs and manages the activity of the Verified Software Initiative that grew out of Tony Hoare’s grand challenge. Our members organize the Verified Software Repository, the Verified Software Conference (VSTTE) and the Verified Software Competition (VSCOMP). The working group meetings focus on steps to advance the science and technology of software verification, and to make verification tools part of the educational experience.

B.9.3  Meetings of WG in 2012

- December 2011, York, England
- July 2012, Seattle, USA
- March 2013, Saarbruecken, Germany

B.9.4  Changes in WG Membership

We have added the following new members:

- Cliff Jones, University of Newcastle
- Ernie Cohen, Microsoft
- Andrey Rybalchenko, TU Munich
- Bart Jacobs, KU Leuven

B.9.5  WG Activities

WG 1.9/2.15 was formed to sustain the Verified Software Initiative (VSI) arising from Tony Hoare’s Verification Grand Challenge.

The members of the working group are distinguished researchers working on various aspects of software verification. The members of the group have been active in organizing several events associated with the VSI. The group has been meeting every six to nine months to discuss the ways of advancing the cause of verified software, including challenge problems, competitions, tool integration, standards, benchmarks, books, and courseware. These discussions have been extremely productive, and several of the initiatives are already producing good results.
B.9.6 Events related to the Working Group in 2012

International Conference on Verified Software (VSTTE):

- January 2012, Philadelphia, organized by Ernie Cohen with 80 participants
- May 2013, Atherton California, to be organized by Natarajan Shankar