

IFIP General Assembly, San Jose (Costa Rica), 16–17 September 2016

TC1 “Foundations of Computer Science” Activity Report

Jacques Sakarovitch, TC1 chair

1 TC1 News

Membership

We regret we have to announce the sudden and unexpected passing away, the 25th of May 2016, of Zoltán Ésik, Hungarian representative in TC1 since 2000.

TC1 has welcomed on 1 January 2016 four new ex-officio members:

1. Markus Roggenbach (Swansea, UK), new chair for WG 1.03
2. Pedro P.B. de Oliveira (São Paulo, Brazil), new chair for WG 1.05
3. Riccardo Focardi (Venice, Italy), new chair for WG 1.07
4. Jean-Christophe Filliâtre (Orsay, France), new chair for WG 1.09

TC1 web page: ifip-tc1.org gives an up-to-date member list; IFIP web page: www.ifip.org/bulletin/bulltcs/memtc01.htm gives the member list for every Working Group as well.

Secretary

TC1 is still missing a secretary.

Working Group administration

Working Group 1.01 chair has insisted that the Working Group be disbanded after canvassing the group. Dissolving the WG will be proposed to TA.

2 Working Groups News

The list and the activity reports of the eight working groups of TC1 is to be found in the following appendix.

WG 1.03, 1.05, 1.06, and 1.08 have undertaken a renewal of their membership (WG 1.02 had undertaken the same task thoroughly in 2012). They have gently granted the title ‘honorary’, or ‘emeritus’, to members who have become inactive in the last years and recruited new active ones.

Working Groups are the place where the scientific activity of TC1 takes places. They all have either their own flagship conferences (WG 1.02, 1.03, 1.05) or they are deeply involved in the organisation of conferences with which they collocate their own workshops and business meetings (WG 1.03, 1.06, 1.07, 1.08, 1.09, 1.10). Following our discussion at the last business meetings in 2015, four of these conferences have been registered as IFIP event, an unprecedented total.

The WG activity reports, and their web page give a good account of the problems that their communities are currently tackling.

Appendix A

Reports from Working Groups

Prof. Markus Roggenbach (Swansea, UK) has been appointed chair of WG 1.03 on 1 January 2016 in replacement of Prof. Till Mossakovski. Prof. Lutz Schröder (Erlangen, Germany) has been elected Vice-Chair and Prof. Christine Choppy leaves secretary office.

Prof. Pedro P.B. de Oliveira (São Paulo, Brazil) and Prof. Katsunobu Imai have been appointed chair and secretary of WG 1.05 on 1 January 2016, in replacement of Prof. Jarko Kari and Prof. Nicolas Ollinger.

Prof. Riccardo Focardi (Venice, Italy) has been appointed chair of WG 1.07 on 1 January 2016 in replacement of Prof. Pierpaolo Degano. Prof. Luca Viganò (London, UK) has been appointed secretary in replacement of Prof. Riccardo Focardi.

Dr. Jean-Christophe Filliâtre (Orsay, France) has been appointed chair of WG 1.09/2.15 on 1 January 2016 in replacement of Prof. Gary Leavens. Dr. Natarajan Shankar remains secretary.

WG 1.01 has confirmed its will of being disbanded and this will be proposed at TA.

[Added after GA] WG 1.06 has decided a change of name for the working group, from “Term Rewriting” to the shorter “Rewriting” which is considered as less restrictive than the former and fits better to the actual scope of the working group.

The list of Working Groups of TC1, with their chairs, vice-chairs and secretaries as on 1 July 2016, is thus established as follows.

| WG Chairs/Vice-Chairs | | | | WG Secretaries | |
|-----------------------|-------------|--|--|------------------------------|---|
| 1.02 | | Descriptional Complexity | Giovanni Pighizzini pighizzini@di.unimi.it | Andreas Malcher | andreas.malcher@informatik.uni-giessen.de |
| | | | Helmut Jürgensen | | |
| 1.03 | | Foundations of System Specification | Markus Roggenbach m.roggenbach@swan.ac.uk | | |
| | | | Lutz Schröder lutz.schroeder@fau.de | | |
| 1.05 | | Cellular Automata and Discrete Complex Systems | Pedro P. B. de Oliveira pedrob@mackenzie.br | Katsunobu Imai | imai@hiroshima-u.ac.jp |
| | | | Nazim Fates nazim.fates@loria.fr | | |
| 1.06 | | Term Rewriting | Georg Moser georg.moser@uibk.ac.at | Ugo Dal Lago | dallago@cs.unibo.it |
| 1.07 | | Theoretical Foundations of Security Analysis and Design | Riccardo Focardi focardi@dsi.unive.it | Luca Viganò | luca.vigano@kcl.ac.uk |
| | | | Véronique Cortier cortier@loria.fr | | |
| 1.08 | | Concurrency Theory | Iliaria Castellani ilaria.castellani@inria.fr | Mohammad Reza Mousavi | m.r.mousavi@hh.se |
| 1.09 | 2.15 | Verified Software | Jean-Christophe Filliâtre jean-christophe.filliatre@lri.fr | Natarajan Shankar | shankar@csl.sri.com |
| 1.10 | | String Algorithms & Applications | Costas Iliopoulos costas.ilopoulos@kcl.ac.uk | Bill Smyth | smyth@mcmaster.ca |

The period covered by the reports is 1 January 2015 – 1 July 2016

WG 1.02 — Descriptive 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

Home page: www.informatik.uni-giessen.de/ifipwg1.2

2015-16 BRIEF ACTIVITY REPORT

Overview of WG Activities

Descriptive 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 descriptive 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 descriptive complexity of bio-inspired computing models and the relationship between descriptive complexity and software reliability.

Meetings of WG

Two formal WG meetings were held during the period:

- On June 27, 2015, on the occasion of DCFS 2015 17th International Workshop on Descriptive Complexity of Formal Systems, Waterloo, Canada, June 25-27, 2015.
- On July 8, 2016, on the occasion of DCFS 2016 18th International Conference on Descriptive Complexity of Formal Systems, Bucharest, Romania July 5-8, 2016.

The next formal WG 1.02 meeting will be held on the occasion of DCFS 2017 19th International Conference on Descriptive Complexity of Formal Systems, Milano, Italy, July 3-5, 2017.

Changes in WG Membership

No changes during the period

WG Topics

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

- descriptonal complexity of formal systems and structures
- various measures of descriptonal complexity of automata, grammars, languages and of related systems
- trade offs between descriptonal complexity and mode of operation
- circuit complexity of Boolean functions and related measures
- succinctness of description of (finite) objects
- descriptonal complexity in resource bounded or structure bounded environments
- structural complexity
- descriptonal complexity of formal systems for applications (e.g. software reliability, software and hardware testing, modelling of natural languages)
- descriptonal 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 descriptonal complexity and its applications.

Events Organized by the Working Group

- IFIP Workshop DCFS 2015: 17th International Workshop on Descriptonal Complexity of Formal Systems, Waterloo, Ontario, Canada, June 25-27, 2015. The workshop was organized, under supervision of the DCFS steering committee, by Jeffrey Shallit (University of Waterloo), who was the co-chair of the Program Committee together with Alexander Okhotin (University of Turku). The scientific part was consisting of 2 invited lectures, 23 regular contributions, selected by a program committee after a standard reviewing process, and one open problem session. The proceedings have been published on LNCS

series. A special issue of the journal Information and Computation, devoted to extended versions of selected papers is underway. Around 40 participants attended the workshop. Many of them are members of the WG.

- IFIP Working Conference DCFS 2016: 18th International Conference on Descriptive Complexity of Formal Systems, Bucharest, Romania July 5-8, 2016. The conference was organized, under supervision of the DCFS steering committee, by Radu Gramatovici (University of Bucharest). The PC co-chairs were Cezar Câmpeanu (Charlottetown/PE, Canada), Florin Manea (Kiel, Germany), and Jeffrey Shallit (Waterloo, Canada). The scientific part was consisting of 4 invited lectures, 13 regular contributions, selected by a program committee after a standard reviewing process, and one open problem session. 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 planned. Around 40 participants attended the workshop. Many of them are members of the WG.

Notice that the steering committee of DCFS decided that, starting from 18th edition, according to the IFIP event classification, DCFS will be a Working Conference.

Publications

- Proceedings of the 17th International Workshop Descriptive Complexity of Formal Systems, DCFS 2015 (Jeffrey Shallit, Alexander Okhotin, editors), Lecture Notes in Computer Science 9118, Springer, 2015.

- Proceedings of the 18th International Conference Descriptive Complexity of Formal Systems, DCFS 2016 (Cezar Câmpeanu, Florin Manea, Jeffrey Shallit, editors), Lecture Notes in Computer Science 9777, Springer, 2016.

- Special issue of the journal Theoretical Computer Science, devoted to selected papers from DCFS 2015 (Helmut Jürgensen, Juhani Karhumäki, Alexander Okhotin, guest editors), vol. 610, Part A, Elsevier, 2016.

Planned Future Events: IFIP Working Conference DCFS 2017: 19th International Conference on Descriptive Complexity of Formal Systems, Milano, Italy, July 3-5, 2017. The conference will be organized, under supervision of the DCFS steering committee, by Giovanni Pighizzini, who will be the co-chair of the Program Committee together with Cezar Câmpeanu.

WG 1.03 — Foundations of System Specification

Chair: Prof. Markus Roggenbach, Swansea University, United Kingdom

Vice-Chair: Prof. Lutz Schröder, Erlangen University, Germany

Home page: ifipwg13.cs.ovgu.de

2015-16 BRIEF ACTIVITY REPORT

Meetings

A formal WG 1.3 meeting was held on June 27, 2015, on the occasion of the 6th Conference on Algebra and Coalgebra in Computer Science, 24-26 June, 2015, Nijmegen, Netherlands. The group elects Markus Roggenbach as the new chair and Lutz Lutz Schröder as vice-chair, commencing January 2016.

A formal WG 1.3 meeting was held March 31 and April 1, 2016, on the occasion of ETAPS 2016, 2-8 April 2016, Eindhoven, The Netherlands.

The next formal WG 1.3 meeting will be held in Binz (Rügen), Germany, January 9 - 12, 2017.

Changes in WG Membership

Emeritus member status was given to:

- Prof. Michel Bidoit, CNRS UMR 8643 & ENS de Cachan, France
- Prof. Christine Choppy, Université Paris XIII, France
- Prof. Kokichi Futatsugi, Japan Advanced Institute of Science and Technology (JAIST), Japan
- Prof. Peter D. Mosses, Swansea University, UK

The group welcomed as new members:

- Prof. Luis S. Barbosa, Universidade do Minho, Portugal
- Dr. Stefan Milius, Friedrich-Alexander Universität, Erlangen-Nürnberg, Germany
- Prof. Dr. Carlos Gustavo Lopez Pombo, Universidad de Buenos Aires, Argentina

Events related to the Working Group

Conference on Algebra and Coalgebra in Computer Science (CALCO) CALCO 2015 in Nijmegen (The Netherlands), June 24-26. It was for the first time co-located with MFPS. The next CALCO, again co-located with MFPS, will be held June 14-16, 2017, in Ljubljana, Slovenia.

The 8th International Conference on Graph Transformation (ICGT 2015) was held in L'Aquila (Italy) in July 2015; the 9th International Conference on Graph Transformation (ICGT 2016) was held July 5-6, 2016, in Vienna, Austria.

The 13th IFIP WG 1.3 International Workshop on Coalgebraic Methods in Computer Science (CMCS 2016) was held in Eindhoven, the Netherlands, April 2-3, 2016.

The 23rd International Workshop on Algebraic Development Techniques (WADT 2016) will take place in Gregynog, Wales, from 21st to 24th September, 2016.

Further sponsored activities

The Distributed ontology, modeling and specification language (DOL) is being standardized at OMG. DOL contains many elements of CASL, which has been developed by members of WG 1.3 and has been approved by WG 1.3.

WG 1.05 — Cellular Automata and Discrete Complex Systems

Chair: Prof. Pedro de Oliveira, Mackenzie University, São Paulo, Brazil

Vice-Chair: Dr. Nazim Fatès, INRIA Nancy, France

Secretary: Prof. Katsunobu Imai, Hiroshima University, Japan

Home page: www.iec.hiroshima-u.ac.jp/ifip15

2015-16 BRIEF ACTIVITY REPORT

(1) PAST EVENTS:

The AUTOMATA annual workshops on "Cellular Automata and Discrete Complex Systems are the official WG 1.5 events, usually composed of invited talks, full paper talks and exploratory paper talks. Two editions took place in the period of this report:

(1.1) AUTOMATA 2015, the 21st edition: took in place in 8-10 June, 2015, in Turku, Finland, had 56 participants: 38 from outside Turku and 18 local participants. All details are available in <http://math.utu.fi/automata2015/>.

(1.2) AUTOMATA 2016, the 22nd edition: took place in 15-16 June, 2016, in Zürich, Switzerland, had 41 participants, from 13 countries. All details are available in <http://automata2016.ini.uzh.ch>.

(2) ELECTION OF THE NEW BOARD OF WG 1.5:

During AUTOMATA 2015, Pedro de Oliveira (from Mackenzie P. University, São Paulo, Brazil) was elected the new Chair of WG 1.5, following Jarkko Kari (from Turku University, Finland). Jarkko Kari had served two subsequent terms and Pedro de Oliveira will serve the triennium 2016-2017-2018. Following the election, the new Chair appointed Nazim Fatès (from INRIA, Nancy, France) as Vice-Chair, and Katsunobu Imai (from Hiroshima University, Japan) as Secretary.

(3) INITIAL ACTIONS OF THE NEW BOARD:

(3.1) In January 2016, corrections and updates have been made in IFIP website, concerning WG 1.5, and a new mailing list for WG 1.5 was set up at Hiroshima University.

(3.2) On April 3rd, 2016, the official web-page of the group was launched, at the URL <http://www.iec.hiroshima-u.ac.jp/ifip15>.

(4) DISCUSSIONS CARRIED OUT WITHIN THE GROUP:

(4.1) With respect to the proposal of a federated event on theoretical computer science, after raising various concerns in our mailing list and, with the perception that the discussions on the idea at the level of TC1 were not progressing significantly, WG 1.5 decided to carry on with AUTOMATA as usual, at least for 2017, since a firm offer for its organisation had already been received. Additionally, with respect to a previous proposal for the IFIP working groups in general to get officially involved with the IFIP World Congress, WG 1.5 decided not to take part because of the discussions already going on about the TC1 federated event and due to the fact that financing support for our participation was unclear; naturally, individual participation and involvement in the event remain, however, fostered.

(4.2) A lot of discussion was held in respect to official membership to WG 1.5. When WG 1.5 was re-created, around 2009, its original composition had a strong historic component. Along the following years the composition was extended with new active participants of the AUTOMATA events, but now there is a shared feeling that a more comprehensive revision should be carried out, even affecting some original members. This whole issue has been given a good thought and this revision is currently under way.

(4.3) In respect to current members who are no longer active, an Emeritus Member category has been created, and started with those cases. Also, it has been reinforced the necessity of periodically confirming with the members as to whether they would like to remain in the group, and a suggestion is to do it every start of a chairship term. In complementary fashion, the Secretary of WG 1.5 will check the group's mailing list periodically, so as to keep it up to date.

(4.4) As for new members, it is a consensus within the group that official membership to WG 1.5 should be based on a certain degree of active participation in AUTOMATA events, expressed if only by submitting papers and/or attending them. This is not to be taken in terms of a pre-specified number of events; the idea is simply that this procedure should reflect a genuine interest in officially being a member of WG 1.5. Further to the previous criterion, we kept the existing one that the prospective member should rely on at least two indications by current members.

(5) INCLUSION OF NEW MEMBERS:

Four recommendations for new members were accepted by the group: Alberto

Dennunzio (University of Milano-Bicocca, Italy), Ville Salo (University of Turku, Finland), Siamak Taati (Leiden University, Netherlands) and Matthew Cook (University of Zurich, Switzerland).

(6) NEXT EVENTS:

(6.1) AUTOMATA 2017 will be organised by Alberto Dennunzio and Enrico Formenti, at the University of Milano-Bicocca (<http://www.unimib.it/go/102/Home/English>), in Milan, Italy, and the dates will be 7-9, June, 2017.

(6.2) Invitations for the organisation of AUTOMATA 2018 have been sent round and at least one proposal has been considered a firm option. Other proposals should still arrive and the final decision will be taken via email.

WG 1.06 — Term Rewriting

Chair: Prof. Georg Moser, Innsbruck University, Austria

Secretary: Dr. Ugo Dal Lago, Bologna University, Italy

Home page: cbr.uibk.ac.at/ifip-wg1.6/

2015-16 BRIEF ACTIVITY REPORT

News

- The next meeting of the IFIP WG 1.6 will be co-located to FSCD17 in Oxford, September 3-6, 2017. The precise date of the meeting need to be clarified.
- Next summer school: The 8th International School on Rewriting will be held in Eindhoven, Netherlands from July 23 to July 27, 2017.
- In discussions on the future of the WG in relation to the newly created conference series Formal Structures for Computation and Deduction (FSCD), the need for a slight renaming of the working group has been voiced. A vote on the proposal to rename the WG from Term Rewriting to Rewriting is pending. A result of this vote is anticipated in October.
- Further information can be found at the WGs website.

Aims

The central goal of the WG is the promotion and orchestration of all efforts on research in rewriting. Here rewriting is understand in a broad scope, including traditional areas like first-order term rewriting and automation reasoning techniques, but also newer topics like higher-dimensional rewriting, which includes for example the interactions homological algebra and type theory. In terms of research policy the WG has had the role of a think tank for its main conference RTA. Due to the dissolution of RTA in the new conference series FSCD this role is currently under discussion (see above).

Past Activities

- The WG met for 1-day meetings in Warsaw, Poland on Sunday, June 28, 2015 (co- located to RDP15) as well as in Porto, Portugal on Sunday, June 26, 2016 (co-located to FSCD16).

- The WG organised the 7th ISR in Leipzig, Germany. The summer school took place on August 10-14, 2015. Main organiser was Johannes Waldmann. The school had a basic and advanced track. Further details on ISR15 can be found at the website: <http://nfa.imn.htwk-leipzig.de/ISR2015/>.

- In addition the working group host the RTA list of open problems and maintenance a (collection of) of home pages on rewriting and related research.

Research Activities

I'll report and briefly highlight the presentations given at the annual meeting of the WG this year in Porto. Mauricio Ayala-Rincón (Brasilia University), Brigitte Pientka (McGill) and Ashish Tiwari (SRI) gave talks. The topics of these talks illustrate the current scope of the WG very well. The talk by Pientka and Tiwari were invited presentations, potentially leading up to membership. The talk by Ayala-Rincón was an expert talk by a non-member.

Ayala-Rincon talked on Formalisation of Confluence. This research is connected to automated confluence analysis as well as interactive theorem. Confluence (or the Church-Rosser property) asks whether a given rewrite relation is deterministic. In recent years automated methods and tools to verify confluence have been developed. In order to guarantee the correctness of such tools, their answers need to be certified, that is, checked with respect to the underlying theory. This is achieved by formalising the employed theories and algorithms inside an interactive theorem prover, so that this formalisation can be exploited to build proof verification techniques that work fully automatically.

Pientka spoke on Programming Coinductive Proofs Using Observations. Coinduction is a key proof technique to establish properties about systems that continue to run and produce results (i.e. network or communications protocols, I/O interaction, data streams, or processes). Yet, mechanising coinductive proofs about formal systems and representing, generating and manipulating such proofs remains challenging in the context of programming languages.

Tiwari talked on One context unification problems solvable in polynomial time. This research is connected to program analysis, in particular to intra-procedural value analysis as well as to research on automated reasoning. The proposed results clarify the computational complexity of a mild generalisation of first-order unification towards second-order unification. While second-order unification is known to be undecidable context unification remains decidable, while at the same time of sufficient expressivity for most applications.

Members

The following researchers have been made active members: Takahito Aoto, Gilles Dowek, Ashish Tiwari. Furthermore Franz Baader, Hubert Comon, Deepak Kapur, Pierre Lescanne, Klaus Madlener and Tobias Nipkow have been made honorary member. Precise information on the members of the WG can be found at the website of the group.

WG 1.07 — Theoretical Foundations of Security Analysis and Design

Chair: Prof. Riccardo Focardi, University of Venezia, Italy

Vice-Chair: Prof. Véronique Cortier, University of Nancy, France

Secretary: Prof. Luca Viganò, King's College London, UK

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

2015-16 BRIEF ACTIVITY REPORT

The WG 1.7. is on the theoretical foundations of security analysis and design, and it has been established 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.

Members

Currently the WG has 32 members, from 14 countries and 4 continents:

- Europe: 23 (France, UK: 5, Germany: 4, Italy: 2, Belgium, Denmark, Ireland, Luxemburg, Netherlands, Spain, Switzerland: 1)
- America: 7 (USA)
- Asia: 1 (China)
- Australia: 1

Events

The creation of Principles of Security and Trust (POST), the sixth main conference of ETAPS, and the continuous contribution to its organization as Program Chairs is one of the major outcomes of the WG. POST was 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 events originated volumes in the LNCS series and sometimes special issues of archive journals.

The HotSpot workshop is the annual WG event where business meetings usually occur.

Since January 2015, the WG has organized the following POST and HotSpot editions:

- POST'15 Fourth Conference on Principles of Security and Trust. 16-17 April 2015, London, UK.
- HotSpot 2015 3rd Workshop on Hot Issues in Security Principles and Trust. 18 April 2015, London, UK. Satellite workshop of ETAPS 2015. (Business meeting of the WG)
- POST'16 Fifth Conference on Principles of Security and Trust. 4-5 April 2016, Eindhoven, The Netherlands.
- HotSpot 2016 4th Workshop on Hot Issues in Security Principles and Trust. April 3rd, 2016, Eindhoven, The Netherlands. Satellite workshop of ETAPS 2016. (Business meeting of the WG)

Related Events

The WG members has been involved in the organization of many International schools and conferences among which:

- FOSAD 2015 and 2016. The International School on Foundations of Security Analysis and Design, (organised since 2000).
- CSF 2015 28th IEEE Computer Security Foundations Symposium. (General chair: Luca Viganò).
- ESORICS 2015 20th European Symposium on Research in Computer Security. (Program co-chair: Peter Ryan).
- ASA 2015 8th International Workshop on Analysis of Security APIs. Satellite workshop of CSF 2015. (Program chair: Riccardo Focardi).
- TPDP 2015 Theory and Practice of Differential Privacy. Satellite workshop of CSF 2015. (Organizer: Gilles Barthe).
- Voting 2016 1st Workshop on Advances in Secure Electronic Voting. Associated with Financial Crypto 2016. (Program co-chair: Peter Ryan).

Future Events and meetings

- POST'17 Sixth Conference on Principles of Security and Trust. 22-29 April 2017, Uppsala, Sweden. Main conference of ETAPS 2017
- HotSpot 2017 5th Workshop on Hot Issues in Security Principles and Trust. Satellite workshop of ETAPS 2017. (Next WG meeting will be part of HotSpot)

Publications

- Riccardo Focardi, Andrew C. Myers (Eds.): Principles of Security and Trust - 4th International Conference, POST 2015, Held as Part of the European Joint Conferences on Theory and Practice of Software, ETAPS 2015, London, UK, April 11-18, 2015, Proceedings. Lecture Notes in Computer Science 9036, Springer 2015, ISBN 978-3-662-46665-0
- Frank Piessens, Luca Viganò (Eds.): Principles of Security and Trust - 5th International Conference, POST 2016, Held as Part of the European Joint Conferences on Theory and Practice of Software, ETAPS 2016,

Eindhoven, The Netherlands, April 2-8, 2016, Proceedings. Lecture Notes in Computer Science 9635, Springer 2016, ISBN 978-3-662-49634-3

Other activities

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 PC members of many international conferences, and as PC and chairs (e.g. POST 2017); 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.

WG 1.08 — Concurrency Theory

Chair: Dr. Ilaria Castellani, Sophia Antipolis, INRIA, France

Secretary: Prof. Mohammad Reza Mousavi, Halmstad University, Sweden

Home page: www.concurrency-theory.org/organizations/ifip

2015-16 BRIEF ACTIVITY REPORT

New Members:

At the end of 2015, based on a call for nominations among the WG members, the following 10 new members were appointed:

- Michele Boreale (IT)
- Javier Esparza (DE)
- Paul Gastin (FR)
- Marta Kwiatkowska (UK)
- Ana Sokolova (AT)
- Patricia Bouyer (FR)
- Yuxi Fu (CN)
- Antonin Kucera (CZ)
- Alexandra Silva (UK)
- Vasco Vasconcelos (PT)

At the same time, two members stepped down (G rard Boudol and P.S.Thiagarajan).

Currently, the WG has 55 members (11 women, 44 men). Since the WG creation in 2005, there has been a turnover of -10, + 13. The gender balance of the WG (20% of women) seems to be slightly higher than that of the concurrency community. An effort to improve the gender balance was made with the last recruitments (+4 women, +6 men). The countries represented in the WG (weighted by their membership) are: Argentina (1), Australia (1), Austria (1), Canada (1), China (3), Czech Republic (1), Denmark (1), France (7), Germany (6), Hungary (1), Iceland (1), India (1), Israel (1), Italy (10), Japan (1), the Netherlands (5), Portugal (1), Spain (1), UK (8), US (3).

In 2015, the WG was involved in the following events:

- TTCS 2015: This was the first edition of the International Conference on Topics in Theoretical Computer Science, which was held from August 26 to August 28, 2015, in Tehran, Iran. The conference received 48 submissions from 12 countries. The submissions were thoroughly reviewed (on average 5 reviews per paper) by 45 international PC members (involving both track A and B of theoretical computer science). The PC in the end accepted 11 papers for inclusion in the program and publication in the proceedings. The post-proceedings were published in the IFIP series of Lecture Notes in Computer Science by Springer.

- TRENDS 2015 (<https://concurrency-theory.org/events/workshops/trends/2015>): TRENDS is the annual event of the WG. The 2015 edition was held in Madrid, Spain, as a satellite workshop of CONCUR 2015. The program comprised the following invited talks:

- Patricia Bouyer-Decitre (CNRS):
Towards Modelling with Stochastic Time Automata
- Bartek Klin (University of Warsaw): A Format Too Far...
- Irek Ulidowski (University of Leicester):
Reversible Computation and Concurrency

The workshop was followed by the WG 1.8 Business Meeting.

- A special issue of the Journal on Logical and Algebraic Methods in Programming was organized by the IFIP WG 1.8 chair and secretary to cover the topics treated in the past two editions of TRENDS. We received 3 submissions from the invited speakers of TRENDS14 and TRENDS15, of which 2 have been accepted and the 3rd is under review.

In 2016, the WG has organized its annual event TRENDS:

- TRENDS 2016 (<https://concurrency-theory.org/events/workshops/trends>) will be held on August 27 in Québec City, Canada, as a satellite workshop of CONCUR 2016. The program will consist of the following invited talks:

- Franck van Breugel (York University, Canada):
Towards a Quantitative Theory of Concurrent Probabilistic Systems
- Dana Fisman (University of Pennsylvania, USA):
Inferring Regular Languages and omega-Languages
- Philippa Gardner (Imperial College, UK):
A Concurrent Specification of POSIX

TRENDS will be followed by the WG Business Meeting, as usual. A JLAMP special issue is again planned for survey papers contributed by the invited speakers of this edition of TRENDS, as well as by invited speakers from the 2015 edition who could not submit to the previous special issue.

WG 1.09/2.15 — Verified Software

Chair: Dr. Jean-Christophe Filliâtre, CNRS, Orsay, France

Secretary: Dr. Natarajan Shankar, SRI International, US

Home page: <https://www.lri.fr/~filliatr/1.9/>

2015-16 BRIEF ACTIVITY REPORT

The aims of 1.9/2.15 are to contribute to a comprehensive theory of programming that covers the features needed to build practical and reliable programs; to contribute to a coherent toolset that automates the theory and scales up to the analysis of industrial-strength software; and to collect realistic, verified programs as part of the Verified Software Initiative (VSI) Repository.

Since the creation of the group in 2011, we are having two meetings a year. These meetings are sometimes co-located with conferences of our domain (e.g. CAV, POPL) to limit travels, though this is not a rule.

We invite different observers to attend our meetings each time, and we collectively decide to elect some of them as new members whenever they participated actively and constructively to our meetings.

Our meetings encourage talks on work in progress and leave much room to discussion. Each talk is typically given one hour.

We also run the VSTTE conference and the Verified Software Competition ([vscomp http://vscomp.org/](http://vscomp.org/), not to be confused with the VerifyThis competition, another competition of our domain).

Membership

Currently 21 members (1 BE, 1 CH, 4 DE, 1 DK, 2 FR, 5 GB, 7 US)
including 2 retired members (Wolfgang Paul, Tony Hoare).

Meetings within the period

- 15-17 July 2015, Menlo Park, CA, USA

Number of WG members present at the meeting: 8

Number of WG observers present at the meeting: 4

(Sylvain Conchon, Prashanth Mundkur, Sanjit Seshia, Ashish Tiwari)

- 16-17 January 2016, St Petersburg, FL, USA (co-located with POPL)

Number of WG members present at the meeting: 7

Number of WG observers present at the meeting: 2

(Malte Schwerhoff, Alexander J. Summers)

In particular, we had a very nice talk by Peter Müller on VIPER (rehearsal of his VMCAI keynote, to be given the day after the meeting).

Next planned meeting

- 2-4 October 2016, Montauban, France (joint with WG2.3)

Number of WG members present at the meeting: 10

Number of WG observers present at the meeting: 8

(June Andronick, Andrew Butterfield, Marcello Frias, Philippa Gardner, Arie Gurfinkel, Gerhard Shellhorn, Alex Summers, Naijun Zhan)

This is the second time we are having a joint meeting with 2.3 (Programming Methodology). 1.9/2.15 and 2.3 have six members in common.

Conferences

VSTTE was co-located with CAV in 2015 (July 18-19 2015, San Francisco, CA, USA) and in 2016 (July 17-18 2016, Toronto, Canada).

WG 1.10 — String Algorithms & Applications

Chair: Prof. Costas Iliopoulos, Kings College, London, United Kingdom

Secretary: Prof. Bill Smyth, McMaster University, Canada

2015-16 BRIEF ACTIVITY REPORT

Report unfortunately missing as for September 13, 2016.