

LSFA 2022

17th Logical and Semantic Frameworks with Applications

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<https://lsfa2022.github.io>

This document contains information for the 17th *Logical and Semantic Frameworks with Applications* (LSFA 2022), for which we apply for publication of proceedings as a volume of the Electronic Proceedings in Theoretical Computer Science (EPTCS) series. LSFA 2022 was a **two-day** event held in Belo Horizonte, Brazil, between 23 and 24 September 2022. Post-proceedings of LSFA were published through EPTCS in 2011, 2012, and 2021.

Description

LSFA (see <https://lsfa-workshop.github.io>) is an annual meeting bringing together both theorists and practitioners of logic and semantic frameworks, including areas such as proof theory, rewriting systems, automated deduction and concurrency theory. The first edition of LSFA was organized in 2006 and it is currently the most important conference in the area of Theoretical Computer Science (TCS) in Brazil. The twelve previous editions took place in Brazilian cities, except for LSFA'16 that took place in Porto.

The first three editions of LSFA were held as a satellite event of the Brazilian Symposium on Formal Methods (<https://link.springer.com/conference/sbmf>). In 2009 LSFA was colocated with RDP (<http://rdp09.cic.unb.br>), in 2010 with ICTAC (<https://link.springer.com/conference/ictac>), in 2015 with NAT@Logic (<https://goo.gl/JXbbxZ>), in 2016 with FSCD (<http://fscd2016.dcc.fc.up.pt>). In 2017, LSFA was a satellite event of TABLEAUX (<https://link.springer.com/conference/tableaux>), FroCoS (<https://link.springer.com/conference/frocoss>) and ITP (<https://link.springer.com/conference/itp>). In 2018 it was in Fortaleza (<http://lia.ufc.br/~lsfa2018>), in 2019 (<https://sites.google.com/view/lsfa2019>), as a satellite of CADE 2019 (<https://www.mat.ufrn.br/cade-27/>) in Natal, and in 2020 (<http://lsfa2020.ufba.br>), it took place in Bahia with the First Brazilian Workshop on Logic WBL. Finally, in 2021 it was held as a satellite of FSCD 2021 (<https://fscd2021.dc.uba.ar>), organised in Buenos Aires, online. The 2022 LSFA workshop was a standalone event, in Belo Horizonte.

Every year, LSFA has attracted leading experts in TCS to be part of the Program Committee and also as invited speakers (see the complete list here <http://lsfa.cic.unb.br>), thus widening its visibility in the scientific community. The number and quality of the publications have also increased during the last years, including authors mainly from South and North America and Europe.

The Program and Pre-Proceedings are available here

<https://lsfa2022.github.io>

Topics

Logical and semantic frameworks are formal languages used to represent logics, languages and systems. These frameworks provide foundations for formal specification of systems and programming languages, supporting tool development and reasoning. The objective of this workshop is to bring together theoreticians and practitioners to promote new techniques and results, and to facilitate feedback on the implementation and application of such techniques and results in practice. LSFA 2022 also aims to be a forum for presenting and discussing work in progress, and therefore to provide feedback to authors on their preliminary research. The proceedings are produced after the meeting, so that authors can incorporate this feedback in the published papers. Topics of interest to this forum include, but are not limited to:

- Logical frameworks
- Proof theory
- Type theory
- Automated deduction
- Semantic frameworks
- Specification languages and meta-languages
- Formal semantics of languages and systems
- Computational and logical properties of semantic frameworks
- Implementation of logical and/or semantic frameworks
- Applications of logical and/or semantic frameworks
- Lambda and combinatory calculi
- Process calculi
- Logical aspects of computational complexity

Since 2007, LSFA Post-Proceedings have been published by Elsevier as volumes of the ENTCS series, or as by the Open Publishing Association in the EPTCS series:

- Proc. LSFA 2007, ENTCS vol 205, 2008
- Proc. LSFA 2008, ENTCS vol 247, 2009
- Proc. LSFA 2009, ENTCS vol 256, 2009
- Proc. LSFA 2010, ENTCS vol 269, 2011
- Proc. LSFA 2011, EPTCS vol 81, 2012
- Proc. LSFA 2012, EPTCS vol 113, 2013
- Proc. LSFA 2013, ENTCS vol 305, 2014
- Proc. LSFA 2014, ENTCS vol 312, 2015
- Proc. LSFA 2015, ENTCS vol 323, 2016
- Proc. LSFA 2016, ENTCS vol 332, 2017.
- Proc. LSFA 2017, ENTCS vol 338, 2018.
- Proc. LSFA 2018, ENTCS vol 344, 2019.
- Proc. LSFA 2019, ENTCS vol 348, 2020.

- Proc. LSFA 2020, ENTCS vol 351, 2020.
- Proc. LSFA 2021, EPTCS vol 357, 2022.

Furthermore, selected papers of LSFA have been published in Special Issues of relevant theoretical journals:

- Special Issue LSFA 2006, J. of Algorithms vol 62, 2007.
- Special Issue LSFA 2007, The Logical J. IGPL vol 17, 2009.
- Special Issue LSFA 2008+9, Theoretical Computer Science vol 412, 2011.
- Special Issue LSFA 2010+11, The Logical J. IGPL vol 22(5), 2014.
- Special Issue LSFA 2012+13, Theoretical Computer Science vol 606, 2015.
- Special Issue LSFA 2014, Theoretical Computer Science vol. 685, 2017.
- Special Issue LSFA 2015+2016, Theoretical Computer Science, vol 781, 2019.
- Special Issue LSFA 2017+2018, Mathematical Structures in Computer Science vol 31(3), 2021.
- Special Issue LSFA 2019+2020, Mathematical Structures in Computer Science, in preparation.

LSFA 2022 Organization

This year, aiming at expanding participation and also following up a post covid situation, LSFA was a hybrid event and with no registration costs. Regarding the reviewing process, we have 27 confirmed members in the PC and we had 10 submissions (see details below). The number of submissions is consistent with previous editions in which LSFA was held as a standalone event.

LSFA 2022 Organizers

PC Chairs:

- Pascal Fontaine, Professor, Université de Liège, Belgium.
pascal.fontaine@uliege.be, <https://people.montefiore.uliege.be/pfontain/>
- Daniele Nantes Sobrinho, Researcher at Imperial College London, England.
dnantes@ic.ac.uk, <https://vtss.doc.ic.ac.uk/people/nantes.html>

Local Organizers:

- Mário S. Alvin, Assistant Professor, Universidade Federal de Minas Gerais, Brazil.
msalvim@dcc.ufmg.br, <https://homepages.dcc.ufmg.br/~msalvim/>
- Haniel Barbosa, Assistant Professor, Universidade Federal de Minas Gerais, Brazil
hbarbosa@dcc.ufmg.br, <https://homepages.dcc.ufmg.br/~hbarbosa/>

LSFA 2022 PC Members

- Beniamino Accattoli, INRIA and École Polytechnique, France
- Sandra Alves, Universidade de Porto
- Carlos Areces, Universidad Nacional de Córdoba
- Mauricio Ayala Rincón, Universidade de Brasília, Brazil
- Haniel Barbosa, Universidade Federal de Minas Gerais, Brazil.
- Mario Benevides, Universidade Federal do Rio de Janeiro UFRJ
- Alejandro Díaz-Caro, Universidad Nacional de Quilmes
- Amy Felty, University of Ottawa
- Pascal Fontaine, Université de Liège, Belgium – co-chair
- Edward Hermann Haeusler, PUC-Rio de Janeiro, Brazil
- Delia Kesner, Université Paris Diderot
- Temur Kutsia, RISC/Johannes Kepler University Linz
- Bruno Lopes, Universidade Federal Fluminense, Brazil
- Ian Mackie, University of Sussex, UK
- Alexandre Madeira, Universidade de Aveiro, Portugal
- Sérgio Marcelino, Instituto de Comunicações, Portugal
- Mariano Moscato, National Institute of Aerospace, USA
- Daniele Nantes Sobrinho, Imperial College London, UK – co-chair
- Vivek Nigam, Huawei Munich Research Center, Germany
- Carlos Olarte, Université Sorbonne Paris Nord, France
- Mateus de Oliveira Oliveira, University of Bergen
- Valeria de Paiva, Topos Institute, Berkeley and Dept Informatica, PUC-Rio
- Alberto Pardo, Universidad de la República, Uruguay
- Elaine Pimentel, University College London, UK
- Giselle Reis, CMU-Qatar
- Umberto Rivieccio, Universidade Federal do Rio Grande do Norte, Brazil
- Camilo Rocha, Pontificia Universidad Javeriana - Cali
- Daniel Ventura, Universidade Federal de Goiás, Brazil
- Petrucio Viana, Universidade Federal Fluminense

Invited Speakers

We had two invited speakers for the event:

- **Ciro Russo** Federal University of Bahia, Brazil
- **Claudia Nalon** University of Brasília, Brazil

Procedures for selecting papers

As in previous editions, regular contributions were selected based on at least three reviews written by the PC members or external expert reviewers. The reviewing process is managed through EasyChair. Contributions are written in English and submitted in the form of full papers (with a maximum of 16 pages) or short papers (with a maximum of 6 pages). They must be unpublished and not submitted simultaneously for publication elsewhere.

During LSFA, informal pre-proceedings were available online via link <https://lsfa2022.github.io/lsfa2022-preproc.pdf>. After the workshop the authors have been invited to submit full versions of their works for the post-proceedings to be published in the EPTCS volume. These submissions are undergoing a second revision round, taking into account notably EPTCS publication standards. Acceptance for presentation at the workshop is not an automatic acceptance for publication in the post-proceedings.

Expected number of submissions/accepted papers

Regarding the number of expected submissions/accepted papers, the numbers from the most recent previous editions are the following:

- LSFA 2014: received a total of 19 submissions + 3 technical contributions of the Invited Speakers. Proceedings were published as volume 312 of ENTCS, comprising a total of 13 full papers.
- LSFA 2015: received a total of 19 submissions of which 16 have been completed. A total of 13 were accepted as regular presentations, plus shared presentations comprising two submissions and a short presentation. Proceedings were published as volume 323 of ENTCS, comprising a total of 15 full papers.
- LSFA 2016: received a total of 12 submissions + 4 invited abstracts. The proceedings were published as volume 312 of ENTCS, comprising a total of 9 full papers.
- LSFA 2017, received a total of 25 submissions and 18 were accepted. The proceedings were published as volume 338 of ENTCS, comprising a total of 13 full papers.
- LSFA 2018, received a total of 18 submissions of which 15 have been accepted for presentation at the workshop. After the workshop, 13 papers were submitted for a second round of revision, the program committee decided to accept 11 papers for this volume. The post-proceedings were published as volume 344 of ENTCS.
- LSFA 2019, received a total of 9 regular papers + 2 short papers + 5 invited abstracts. The proceedings were published as volume 348 of ENTCS.
- LSFA 2020, has accepted 9 regular papers out of 13 submissions (17 abstracts); and three short papers from four submissions (six abstracts). The proceedings were published as volume 351 of ENTCS.
- LSFA 2021, received a total of 9 submissions + 3 invited abstracts. The proceedings were published as volume 357 of EPTCS.

- LSFA 2022, received a total of 9 submissions which were accepted for presentation at the workshop + 2 invited abstracts. The post-proceedings are currently going through a second round of reviews.

We kindly thank the EPTCS Managing Editors for considering our proposal.

Pascal Fontaine and Daniele Nantes Sobrinho

(LSFA 2022 PC co-chairs)

LSFA co-chairs brief CVs

Pascal Fontaine is Professor of Computer Science at the University of Liège (Belgium) since 2019. Before, he was assistant professor at the University of Lorraine (France) and in the Inria-Loria VeriDis team. He has been working in the theory and practice of SMT (Satisfiability Modulo Theories) solving.

He was, among others, chair of the International Conference in Automated Deduction (CADE) in 2019, co-chair of the International Symposium on Frontiers of Combining Systems (FroCoS) in 2013, and co-chair of the Workshop on Satisfiability Modulo Theories (SMT) in 2012. He is an elected CADE Trustee since 2019, and has been steering committee member for SMT, FroCoS and PAAR.

Among other events, he was co-organizer of the summer school on Verification Technology, Systems & Applications (VTSA) 2021, Dagstuhl seminar 15471 (2015), and the fourth international Summer School on SAT and SMT 2014.