Formal Methods Europe
Minutes of the 74th meeting
Held online
12 December 2022
www.fmeurope.org

Present at the meeting were:

- Oana Andrei
- Domenico Bianculli
- Simon Bliudze
- Ana Cavalcanti (Chair)
- John Cooke
- David Duke
- Lars-Henrik Eriksson (Secretary)
- Mario Gleirscher
- Stefania Gnesi
- Klaus Havelund
- Einar Broch Johnsen
- Randolph Johnson
- Cliff Jones
- Jeroen Keiren
- Martin Leucker
- Claudio Menghi
- Taras Panchenko
- Luigia Petre
- Nico Plat
- Pedro Ribeiro
- Matteo Rossi
- Volker Stolz
- Maurice ter Beek
- Tim Willemse

1   Welcome and agree upon agenda
Ana Cavalcanti welcomed the members present. The agenda was agreed upon.

2   Minutes of the previous meeting and review of actions
Preliminary minutes of the 2022 AGM were presented.

There were no open actions.

3   Plan for 2023
Ana Cavalcanti presented the plans of the Board for 2023 (attached to the minutes). The meeting approved of the plans.

4   Budget for 2023
Nico Plat presented the budget proposal for 2023 (attached to the minutes). The meeting approved of the budget.

5   Status report on FM'23
Maurice ter Beek reported on FM'23. A page with details is attached to the minutes.

6   FormaliSE
Nico Plat and Stefania Gnesi reported on the current status of FormaliSE 2023. The Call for Papers has been sent out. The PC co-chairs are Marie-Christine Jakobs (TU Darmstadt) and Toby Murray (University of Melbourne).

7   Process to adapt to new Dutch legislation for associations
Nico Plat reported on the progress. Work is in progress on new statutes.

8   Committee activities

Book Review Committee: Matteo Rossi reported on committee activities. See the presentation attached to these minutes.

Communications Committee: Einar Broch Johnsen reported on committee activities. See the presentation attached to these minutes.

Industry Committee: Tim Willemse reported on committee activities. The committee has met and discussed ideas for what activities to pursue. Some ideas are: Make an archive of case studies with industrial flavour. Reach out to industrial conferences. A talks series similar to that of the Teaching Committee.

The web site has been updated. Discussions with the Communications Committee about harmonising the style with the main FME web site..

Teaching Committee: Luigia Petre reported on committee activities. See the presentation attached to these minutes.

9   Date and place of next meeting
The next meeting will be the AGM. It will be held during FM'23 in Lübeck.

10   Other Business
There was no other business

Priorities
- Success of FM 2023 and 2024, and FormaliSE 2023
- Align the association to the new Dutch regulations for associations
- Consider open-access proceedings for FM

Symposia

The main focus is the successful running of FM2023 and FormaliSE 2023, and the planning of FM2024. We will organise a consultation of the community and will consider how to take their views into account in FM2024. A key area to consider is the community views on the adoption of double-blind reviewing in FM2023. We will also consult the community on the possibility of open access publication of the proceedings. A call for organisers of FM2024 is already out.

Responsible: Maurice ter Beek and Ana Cavalcanti

Membership

We have achieved a sustainable (modestly increasing) level of membership. We will continue to make sure that the membership reflects the active members of the society. Alignment of the statute to the new Dutch regulations for associations may lead to a better management of the membership, which currently includes several members that are not reachable.
Responsible: Lars-Henrik Eriksson

Finances and sponsorship

We do not foresee a need to review our policies fundamentally in the coming year. We will discuss with the membership the possibility to invite special initiatives to use surplus funds. This is pending decision on open-access proceedings for FM, and definition of related costs, if any.
Responsible: Nico Plat

External relations

We will continue our cooperation with BCS-FACS and FMICS. We will continue to support the work of the committees.
Responsible: Ana Cavalcanti

Communications

We will continue to work with the Communications Committee to maintain the vitality of the various means of interaction with the community. Besides the website, which will

remain as the FME's primary medium for disseminating its activities, we are using Twitter, LinkedIn, and YouTube. We will also continue holding the FME meetings also as webinars. We will revisit the publicity plans for FM and FormaliSE.
Responsible: Einar Johnsen and Ana Cavalcanti

FME Fellowship and Lucas Award

We will work with the Awards Committee to prepare to confer a Fellowship Award during FM2024. The Lucas Award and the format of the award ceremony for FM2023 has already been decided.
Responsible: Ana Cavalcanti and Augusto Sampaio

Book reviews

We will continue to work with the Book Review Committee to establish a steady stream of publications.
Responsible: Matteo Rossi

Support for teaching

We will continue to work with the Teaching Committee to take forward ideas raised in the membership consultation to support teaching of formal methods. We will strive to support colleagues in various ways, especially young academics.
Responsible: Luigia Petre

Formal methods in industry

We will work with the Industry Committee to take forward ideas raised in the membership consultation to engage with industry to promote and support use of formal methods. The industry day will continue to be an important part of our agenda, but we will seek to support other activities, increasing the visibility of formal methods via sharing of information and organisation of events, for example.
**Responsible:** Tim Willemse

Coordination of events

We will keep the list of upcoming events in our homepage up to date and comprehensive to include major events in the area of formal methods.
Responsible: Einar Johnsen

Code of conduct

We have defined a code of conduct for FME events, and the FM2023 organisers are going to implement it. Following that experience, we will disseminate the code to organisers of
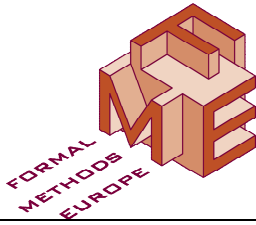
other events in the area of formal methods, to take their views on the possibility of adopting a similar code for their events as well.
Responsible: Ana Cavalcanti

Statute of the Association

We need to change the FME statute to align it with new Dutch legal requirements for the management of associations. In this opportunity we will review several aspects of the statute that seem outdated and bring a proposal for discussion with the membership.
Responsible: Nico Plat
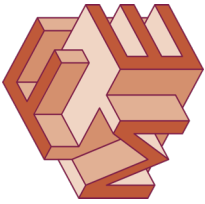
Budget FME 2023

To be approved at the FME Business Meeting on 12 December 2022

No.	Description	Budget 2022 Surplus and deficit Debit	Budget 2022 Surplus and deficit Credit	Budget 2022 Balance Debit	Budget 2022 Balance Credit	Budget 2023 Surplus and deficit Debit	Budget 2023 Surplus and deficit Credit	Budget 2023 Balance Debit	Budget 2023 Balance Credit
01	Total assets beginning of year			€ 93.907,27				€ 85.957,27	
02	Total assets end of year				€ 85.957,27				€ 78.257,27
	Administrative items								
03	Interest received on deposit account		€ 0,00				€ 0,00		
04	Banking and organisational costs	€ 200,00				€ 250,00			
05	IT infrastructure	€ 150,00				€ 200,00			
	Operational items								
06	Surplus FM Symposia		€ 3.400,00				€ 5.500,00		
07	FormaliSE	€ 2.500,00				€ 4.000,00			
08	Sponsorships	€ 3.500,00				€ 3.500,00			
09	Travel costs FME Board	€ 2.000,00				€ 3.000,00			
10	Miscellaneous	€ 250,00				€ 250,00			
11	Committee funding	€ 1.250,00				€ 1.250,00			
12	Notary costs	€ 1.500,00				€ 750,00			
12	*Subtotals*	€ 11.350,00	€ 3.400,00	€ 93.907,27	€ 85.957,27	€ 13.200,00	€ 5.500,00	€ 85.957,27	€ 78.257,27
13	Net surplus	-€ 7.950,00		-€ 7.950,00		-€ 7.700,00		-€ 7.700,00	
14	*Totals*	€ 3.400,00	€ 3.400,00	€ 85.957,27	€ 85.957,27	€ 5.500,00	€ 5.500,00	€ 78.257,27	€ 78.257,27

Comments on various items

02	Assets end of year 2022	The amount used here is the amount at end of year (budgetted) for 2022. This number is used because we do not know the actual assets end of 2022 yet. However, these are currently estimated at around 95.000 euro.
06	Surplus FM'2023	Based on the budget for FM 2023, assuming all requested sponsorships are granted.
07	FormaliSE	FormaliSE 2023 will be held in Merlbourne, Australia. More funding required because of distance and increased travel costs.
09	Travel costs FME Board	Based on two fysical meetings in 2023. Increase of bufgetted costs because travel has become more expensive.

PROGRESS REPORT FM 2023

* FM 2023 is well on track. The overall program and registration fees have been published on the website, while registration will open tomorrow at the latest.

* The paper selection process has been concluded, the first ever double-blind reviewing process. FM 2023 sought papers in the following five categories:

  - Regular Papers (max 15 pages);
  - Long tool papers (max 15 pages);
  - Case study papers (max 15 pages);
  - Short papers (max 6 pages);
  - Tool demonstration papers (max 6 pages).

Together with 75 regular papers, 8 long tool papers and four of each of case study, short and tool demos were submitted. After 3 desk rejects, the following 18 regular papers, 5 long tool papers, 3 case study papers, 1 short paper, and 1 tool demo paper were accepted.

So in total 28 out of 95 papers were accepted, an acceptance rate just below 30%. The overall submission number was disappointingly low (about 30 papers less than this decade's average). We have no clear reason why this is the case, but hope to find this out through a survey/evaluation among the membership.

* The Journal-First (JFT) committee selected 4 papers out of 12 nominations from the FME partner journal's editors-in-chief (currently Formal Aspects of Computing, Formal Methods in System Design, and Science of Computer Programming).

* During the conference, full papers (regular, long tool, case study, JFT) will be given a full presentation time slot. Short papers and demos will be given half time.

* The first ever artifact evaluation (AE) at FM went very well. A total of 15 artifacts were handed in, so for more than half of the papers; each was reviewed by at least 2 reviewers, after which 8 were accepted, 4 conditionally accepted, and 3 were rejected. The papers that passed the AE will be enriched with a badge "available" and possibly "reproducible" on the title page. The conditionally accepted papers didn't pass the "availability" test and are given the opportunity to fix this. The AE committee did a great job to get the 30 AEs done within a short amount of time. The time between the notification of the paper reviews and the subsequent AE was a bit short for authors - next time this should be a bit longer.

* FM 2023 will feature the following 3 keynotes:

  - Trustworthy AI by Jeannette M. Wing;
  - Symbolic Computation in Automated Program Reasoning by Laura Kovács;
  - The Next Big Thing by Harald Rueß (industry speaker).

* The industry track features 8 papers from companies like Amazon, Audi, and ConsenSys.

* Next to the Industry day, there is a rich program of further related events:

  - Doctoral Symposium;
  - 3 Workshops: Applications of Formal Methods and Digital Twins, FMtea, and Overture;
  - 4 Tutorials: Machine Learning Guided Program Synthesis by Nathanaël Fijalkow, Hybrid System Falsification: Fundamentals and Advanced Topics by Zhenya Zhang, Paolo Arcaini & Ichiro Hasuo, Verification of Deep Neural Networks by Daniel Neider, and Reasoning with Quantified Boolean Formulas by Martina Seidl.

Book Review Committee

Goal

- provide to the FM community high-quality reviews of books on topics of interest to the community
- reviews highlight the strengths and weaknesses of the book, to help researchers who are looking for reference texts in their areas of interest

Committee

- Simon Bliudze (INRIA Lille, FR)
- Wan Fokkink (Vrije Universiteit Amsterdam, NL)
- Constance Heitmeyer (Naval Research Laboratory, US)
- Einar Broch Johnsen (University of Oslo, NO)
- Annabelle McIver (Macquarie University, AUS)
- Matteo Rossi (Politecnico di Milano, IT)

- bookreview@fmeurope.org
- https://fmeurope.org/book-review/

Procedures

- BRC members select books of interest, then ask esteemed colleagues to review them (or review them themselves)
- reviews are not anonymous
- published on FME website, but also possibly on Formal Aspects of Computing journal
  - https://fmeurope.org/categories/bookreviews/
- FME board has agreed to allow reviews to be publicized through the "events" mailing list
- Committee meets every 2-3 months via conference call

Status

- 1 review recently published on FME website

- 2 reviews being consolidated for publication

- other reviews in the working

- Some of the past reviews published (or considered for publication) in Formal Aspects of Computing

FME Communications Committee

FME Meeting 12 December 2022

Committee Members

- <u>Carlo A. Furia</u>, Università della Svizzera italiana, Switzerland.
- <u>Einar Broch Johnsen</u>, University of Oslo, Norway (Chair)
- <u>Matthew Luckuck</u>, University of Derby, UK
- <u>Claudio Menghi</u>, University of Luxembourg.
- <u>Pedro Ribeiro</u>, University of York, UK.
- <u>Lina Marsso</u>, University of Toronto, Canada

Activities

- Maintain website, LinkedIN group, Twitter account
- Liaise with the other FME committees about communication
- Liaise with FM and FormaliSE about communication strategy
- Announce meetings and awards
- Publish videos from FM conferences on YouTube
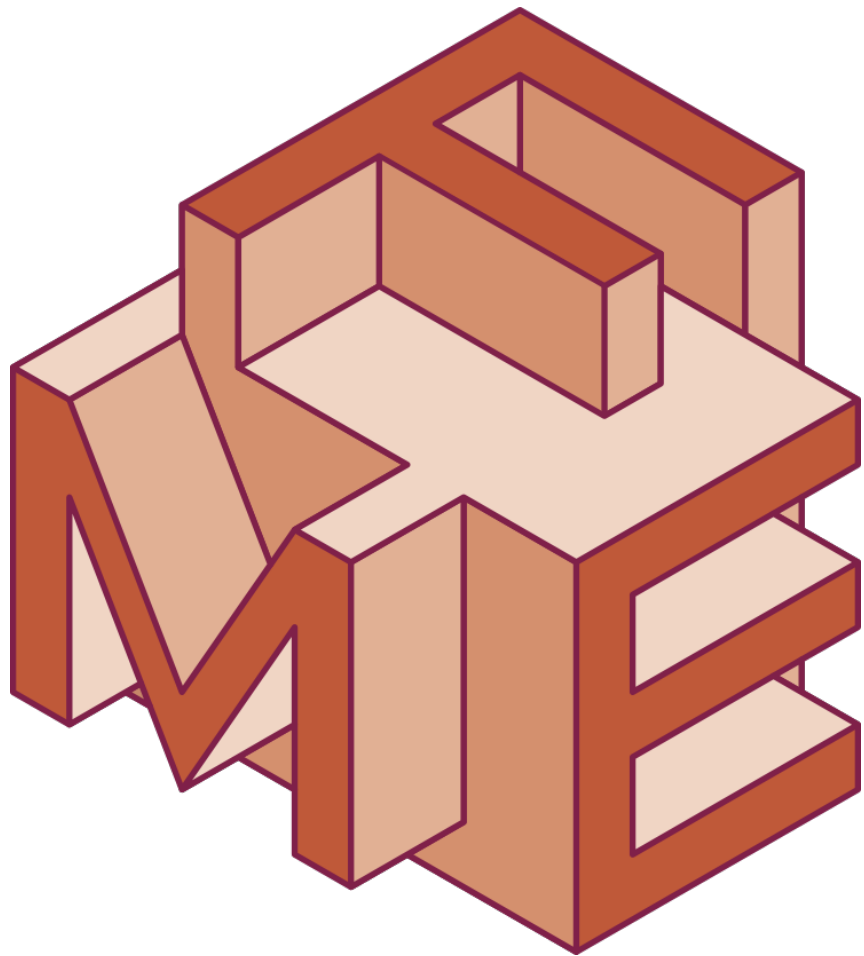
FME Teaching Committee

status, 12.12. 22

Luigia Petre

*Åbo Akademi University, Turku, Finland*
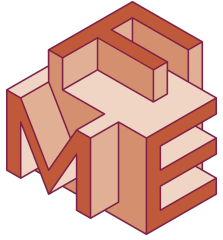
Teaching Committee members

- [Brijesh Dongol](#), University of Surrey, UK

- [Catherine Dubois](#), ENSIIE, France

- [João F. Ferreira](#), IST, University of Lisbon, Portugal

- [Alexandra Mendes](#), University of Beira Interior, Portugal

- [Luigia Petre](#) (chair), Åbo Akademi University, Finland

- [Leila Ribeiro](#), Federal University of Rio Grande do Sul, Brazil

- [Pierluigi San Pietro](#), Politecnico di Milano, Italy

- [Emil Sekerinski](#), McMaster University, Canada

- [Graeme Smith](#), The University of Queensland, Australia
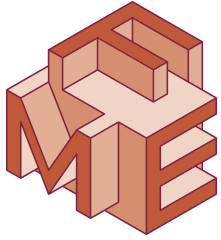
Happy about

- FMTea (FM Teaching) → currently main workshop on teaching formal methods
    - https://fmtea.github.io
    - Lubeck, March 6, 2023
    - **Catherine Dubois** and **Pierluigi San Pietro** co-chairs

- Tutorial series
    - Very successful
    - Our speakers: *Sandrine Blazy, Ran Ettinger, David Pearce, Shriram Krishnamurthi, Jeremy Gibbons, Tim Nelson, Erika Abraham, Robert Lewis, Michael Leuschel, Allan Blanchard, Markus Kuppe*
    - Next → Oana Andrei (UK), January 2023

- Courses database → https://fme-teaching.github.io/courses/
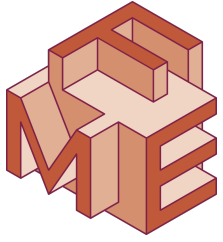
Next on our agenda

- COST action application
  - Submitted, now we wait
  - Previous application call → 8% acceptance rate
- ACM Curriculum
  - Brijesh Dongol is the link
  - Most recent Computer Science curriculum from 2013, they work on a new one
  - Formal Semantics + Formal Development Methodologies → both non-core
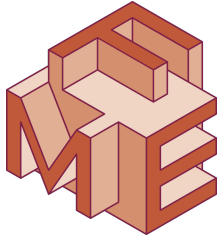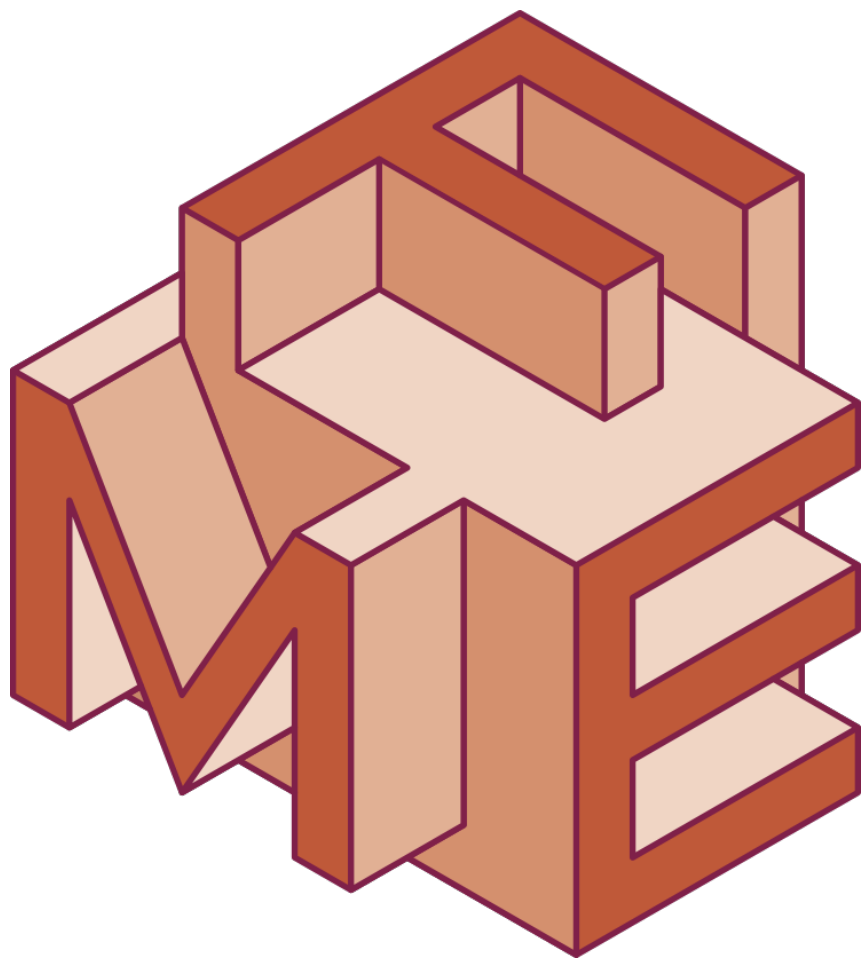
Formal Semantics – learning outcomes

1. Construct a formal semantics for a small language. [*Creating*]

2. Write a lambda-calculus program and show its evaluation to a normal form. [*Applying*]

3. Discuss the different approaches of operational, denotational, and axiomatic semantics. [*Understanding*]

4. Use induction to prove properties of all programs in a language. [*Applying*]

5. Use induction to prove properties of all programs in a language that are well-typed according to a formally defined type system. [*Applying*]

6. Use parametricity to establish the behavior of code given only its type. [*Applying*]

7. Use formal semantics to build a formal model of a software system other than a programming language. [*Applying*]
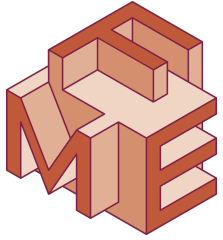
Formal Dev Methodologies – Learning Outcomes

1. Use formal modeling techniques to develop and validate architectures. [*Applying*]

2. Use proof assisted programming languages to develop fully specified and verified software artifacts. [*Applying*]

3. Use verifier and specification support in programming languages to formally validate system properties. [*Applying*]

4. Integrate symbolic validation tooling into a programming workflow. [*Analyzing*]

5. Discuss when and how formal methods can be effectively used in the development process. [*Understanding*]

Keep in touch!

https://fme-teaching.github.io/