



**Formal Methods Europe**  
**Minutes of the 71<sup>st</sup> meeting (AGM)**  
**Held online**  
**6 May 2021**  
[www.fmeurope.org](http://www.fmeurope.org)

*Present* at the meeting were:

- Andrew Butterfield
- Ana Cavalcanti (Chair)
- John Cooke
- Agostino Cortesi
- Ferruccio Damiani
- Andrea De Lucia (not an FME member)
- Lars-Henrik Eriksson (Secretary)
- Alessandro Fantechi
- Marie Farrell
- John Fitzgerald
- Carlo Furia
- Stefania Gnesi
- Klaus Havelund
- Einar Broch Johnsen
- Cliff Jones
- Matt Luckuck
- Dino Mandrioli
- Claudio Menghi
- Mohammad Reza Mousavi
- José Oliveira
- Marcel Oliveira
- Luigia Petre
- Nico Plat
- Pedro Ribeiro
- Matteo Rossi
- Laura Semini
- Maurice ter Beek

**1 Welcome and agree upon agenda**

Ana Cavalcanti welcomed the members present. The agenda was agreed upon, with the addition of §§15-16.

**2 Minutes of the previous meeting and review of actions**

The minutes of the December 2020 meeting were approved with two changes. David Duke was added to the participation list and the spelling of Alessandro Fantechi was corrected.

There were no open actions.

**3 Annual report for 2020**

Lars-Henrik Eriksson presented the annual report of the board for 2020 (attached to the minutes). The meeting approved the report.

Lars-Henrik noted that we get very few new industrial members. (None during 2020.)

*New Action 71/1: Ana Cavalcanti to discuss with Klaus Havelund (chair of the Industry Committee) about recruiting more industrial members.*

**4 Financial report for 2020**

Nico Plat presented the financial report for 2020 (attached to the minutes). The meeting approved the report.

## **5 Report by the Independent Financial Examiners**

The independent financial examiners (Carlo Furia and John Cooke) had individually checked the FME accounts. These reports are attached to the minutes. The meeting discharged the Treasurer from his responsibilities during this period. Ana Cavalcanti thanked the Treasurer and the Independent Financial Examiners for their work.

## **6 Elections**

**a) One board member, to serve until the 2024 AGM.** In accordance with FME statutes, Lars-Henrik Eriksson stepped down as Board member. He had indicated his willingness to serve a further term. There were no other candidates to take his position. Therefore, Lars-Henrik was reelected unopposed.

**b) One Independent Financial Examiner for 2021 and 2022.** According to FME statutes, John Cooke cannot serve another term as independent financial examiner. The meeting expressed its thanks for his service. Marie Farrell accepted taking this role. She was elected *nem con*.

## **7 Status report on FM'21**

Stefania Gnesi said that a final decision had been made to hold FM'21 as an online event. The "time zone" for the event has not been decided on yet.

Ana Cavalcanti asked for any experiences of online conferencing platforms, to be passed on to the FM'21 organisers. Marcel Oliveira mentioned that the system Gather ([www.gather.town](http://www.gather.town)), used for breaks and social events at ETAPS, is nice. Maurice ter Beek mentioned the system Morresier ([www.morresier.com](http://www.morresier.com)) used for ETAPS sessions which worked well technically but was otherwise not good. He also mentioned that SPLC used Whova ([www.whova.com](http://www.whova.com)), which worked well and that ICSE/FormaliSE will be using Clowdr ([www.clowdr.org](http://www.clowdr.org)). Klaus Havelund mentioned the platform VCS by Easychair ([www.easychair.org/vcs](http://www.easychair.org/vcs)).

## **8 FormaliSE**

Nico Plat reported on the current status of FormaliSE 2021. Moshe Vardi and Liliana Pasquale will be invited speakers. There have been 44 submissions of which 13 were accepted.

## **9 Book Review Committee report**

Matteo Rossi reported from the Book Review Committee. (Report attached to the minutes.) Peter Gorm Larsen has left the Committee and Simon Bliudze has taken his place. The meeting thanked Peter for his efforts.

## **10 Teaching Committee report**

Luigi Petre reported from the Teaching Committee. (Report attached to the minutes.)

## **11 Communications Committee report**

Einar Broch Johnsen reported from the Communications Committee. (Report attached to the minutes.)

## **12 Industry Committee report**

Klaus Havelund reported from the Industry Committee. (Report attached to the minutes.)

## **13 Collaboration with BCS-FACS**

FME and BCS-FACS reasserted their mutual collaboration. The AGM will be followed by the annual FME/BCS-FACS talk, this year given by Michael Leuschel.

## **14 Date and place of next meeting**

The next meeting will be held in early December, as decided on by the board..

## **15 CORE rankings**

Ana Cavalcanti reported that it had come to the Board's attention that the group behind the Australian CORE rankings planned on lowering the FM Symposia rank from A to B. The information they had as basis for this proposal was incomplete and apparently no allowance had been taken to the fact that the FM Symposium is not an annual conference. No one from CORE had contacted FME or any recent FM Symposium organiser.

The Board made a major effort in short time to provide CORE with correct information and argued that the FM Symposium should rather have its rank raised to A\*. Several FME members assisted the Board, e.g. Najun Zhang put his team on gathering data on the PCs from the last few Symposia. Ana Cavalcanti thanked everyone involved.

At the time of this meeting, CORE had not yet decided on new rankings. It was observed that CORE appears to have taken on a larger job of ranking than they can handle and instead pushed all the work on the community.

#### **16 Open Access Journal**

There was a proposal by Maurice ter Beek, Klaus Havelund, Marieke Huisman, Einar Broch Johnsen, and Nico Plat that FME should take an initiative in starting an open access journal on Formal Methods. (Proposal attached to the minutes.)

Discussion. There was concern about legal consequences for FME, competition with other journals and the facts that a new journal would not be ranked for several years which could make it less attractive to authors.

The Board will consider the proposal further and continue the discussion with the membership.

#### **Summary of open actions**

Action 71/1: Ana Cavalcanti to discuss with with Klaus Havelund (chair of the Industry Committee) about recruiting more industrial members.



# ***Formal Methods Europe: report on activities in 2020***

## **The FME Board May 2021**

This report is a brief account of the association's activities between 1 January 2020 and 31 December 2020.

### **1. Board**

Board members during the period were Ana Cavalcanti (Chair), Lars-Henrik Eriksson (Secretary), Nico Plat (Treasurer), Stefania Gnesi (Symposia and Deputy Chair), Einar Broch Johnsen (Publications).

### **2. Membership**

On 31 December 2020 the association had 374 members in total, an increase of 16 from the previous year.

284 members (76%) come from academic institutions, 65 (17%) from commercial institutions and 25 members (7%) have no affiliation or come from other institutions (e.g. non-academic research institutes). Roughly 70% of the members are based in Europe. Only a small part of the membership (estimated at 10%) is actively involved in FME activities.

103 of the members have a suspended status because of unknown contact details. (They could not be reached for a membership details update request in 2016.)

### **3. Symposia/Conferences**

#### *FormaliSE*

FormaliSE was held on July 13 as an on-line event, as usual organised by Stefania Gnesi and Nico Plat. The PC chairs were Kyungmin Bae (Pohang University of Science and Technology) and Domenico Bianculli (University of Luxembourg). The event had some 73 attendants and 14 papers were accepted. The keynote speaker was Shahar Maoz (Tel Aviv University). See <https://formalise.org/content/formalise-2020>.

### **4. Publications**

The FME website was maintained by Einar Broch Johnsen. The FME mailing lists were maintained by Lars-Henrik Eriksson and hosted by Uppsala University

FME maintains a list of FM events including important dates. The list is available on the FME web site.

The FME [events@fmeurope.org](mailto:events@fmeurope.org) e-mailing list is available for announcements related to established conferences in the FM area as well as events organised or sponsored by FME.

FME also has a presence on the LinkedIn web site.

The FME Communications Committee has worked with widening the means of reporting information and spreading interest about FME.

### **5. Grants and sponsorships**

Three sponsorships were granted during 2020, but because of the pandemic only one of them were actually paid out in the end. Refer to the Financial Report for details.

## **6. Special Interest Groups**

FME currently has no Special Interest Groups.

## **7. Standing Committees**

FME currently has five standing committees: The Book Review Committee (contact: Matteo Rossi), the Awards Committee (contact: Augusto Sampaio), the Teaching Committee (contact: Luigi Petre), the Communications Committee (contact: Einar Broch Johnsen), and the Industry Committee (contact: Klaus Havelund).

## **8. Industry-Research Collaboration**

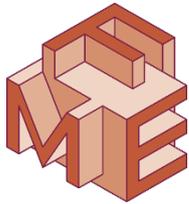
FME has a Memorandum of Understanding with FMICS to collaborate in holding an annual joint industry-focussed event.

There is also a Memorandum of Understanding between FME and the British Computer Society Specialist Group on Formal Aspects of Computing Science (BCS-FACS) on holding an annual joint seminar.

## **9. Meetings**

Two meetings were held in 2020, both online due to the Covid-19 pandemic. The AGM was held on April 9 with 26 participants, and a second meeting on December 10 with 25 participants. Beginning with 2021, the membership decides on the budget and plan before the year begins (i.e. at the December 2020 meeting) rather than at the AGM.

Additionally, the Board held six online board meetings.



## Financial Report 2020

February 21, 2021  
Formal Methods Europe

Prepared by Nico Plat (Treasurer)

### Introduction

This document provides:

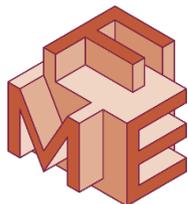
- The 2020 budget as approved at the 69<sup>th</sup> FME meeting, AGM 2020, held on 9 April 2020 online (minutes available from <http://www.fmeurope.org>).
- FME's financial results over the year 2020.

The year 2020 was in many respects a different year than others, due to the COVID-19 pandemic. For FME this meant that spending was lower, due to lack of travel, usually a significant amount to spend for FME. For the same reason sponsorship spending was lower, although a number of sponsorship grants had been awarded. The FM 2019 Symposium has been a tremendous success, not only in scientific terms and other benefits for the synergy in our community, but also financially it has meant a great boost to the financial position of the association. Having said that, the Symposium remains the only source of income for FME, so all future spending must still be planned with that fact in mind.

The bank statements and cashbook of our association for 2020 are reviewed by the independent financial examiners: John Cooke and Carlo Furia (FME members). The treasurer asks for discharge of his duties for the financial year 2020.

Rotterdam, February 2021

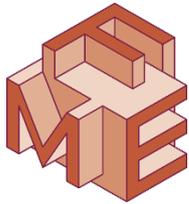
Nico Plat  
Treasurer



## Approved Budget 2020 and Financial Report 2020

Below the budget for FME as it was approved by the membership at the Annual General Meeting 2020 (minutes available from <http://www.fmeurope.org>). The budget is presented in the same table as the financial results for 2020, to ease comparison between the two.

No.	Description	Budget 2020				Results 2020			
		Surplus and deficit		Balance		Surplus and deficit		Balance	
		Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit
01	Nett assets regular account (31-12-2019)			€ 2.265,62				€ 2.265,62	
02	Nett assets savings account (31-12-2019)			€ 52.110,09				€ 52.110,09	
03	Total assets end 2020				€ 75.875,71				€ 95.961,63
	<b>Administrative items</b>								
04	Interest received on deposit account		€ 0,00						
05	Banking and organisational costs	€ 200,00				€ 136,65			
06	IT infrastructure	€ 50,00				€ 33,33			
	<b>Operational items</b>								
07	Surplus FM'2019 Porto		€ 30.000,00				€ 41.400,00		
08	ICSE/FormaliSE 2020	€ 2.500,00				€ 0,00			
09	Sponsorships	€ 3.500,00				€ 135,00			
10	Travel costs FME Board	€ 2.000,00				€ 0,00			
11	Miscellaneous	€ 250,00				€ 9,10			
	Creditors						€ 500,00		
12	<b>Subtotals</b>	€ 8.500,00	€ 30.000,00	€ 54.375,71	€ 75.875,71	€ 314,08	€ 41.900,00	€ 54.375,71	€ 95.961,63
13	Net surplus	€ 21.500,00		€ 21.500,00		€ 41.585,92		€ 41.585,92	
14	<b>Totals</b>	€ 30.000,00	€ 30.000,00	€ 75.875,71	€ 75.875,71	€ 41.900,00	€ 41.900,00	€ 95.961,63	€ 95.961,63



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With respect to this report, the following observations can be made:

- [04] No interest was received on the savings account this year. This is in line with global current trends.
- [05] Banking costs and other operational costs were a bit less than projected.
- [06] IT Infrastructure costs (currently only file hosting) were also a bit less than expected.
- [07] The books for FM 2019 in Porto, Portugal are closed, and a significant surplus has been paid to FME.
- [08] The FormaliSE conference in 2020, originally planned to be held in Seoul, South Korea, was held online instead. Hence no costs were made for the event.
- [09] Sponsorships. Although three requests for sponsorship had been granted, only one grant was actually paid to SBMF 2020. Since SBMF 2020 was also held virtually, the sponsorship money was spent on a Zoom license.
- [10] The board held no physical meetings, hence there were no associated travel costs.
- [11] Miscellaneous costs were limited to some postal costs.
- [13] The financial year was closed with a surplus of € 41.585,92. This is far more than the projected surplus of € 21.500 because:
  - The bigger than expected surplus of FM 2019, due to the fact that the expected surplus did not contain additional funds that have been received from the Portuguese ATP.
  - Spending was much lower than expected because no travelling took place in 2020 because of the COVID-19 pandemic.
- [14] Total assets at the end of the year were € 95.961,63
- There is one unbudgeted item labelled "Creditors". This refers to a Chinese student who was entitled to one of the FM 2019 student awards but did not respond to multiple attempts to send us bank account details, hence so far, the award has not been paid. The FM 2019 student awards are not part of FME's budget, but FME was asked to act as proxy here by the organisers of FME 2019, since it administratively easier for FME to engage in financial transaction with individuals living all over the globe than it is for institution of the FM 2019 organisers.

**END OF REPORT**

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<sup>1</sup> Update 21 February: the student has been found and the remaining award money has been transferred.



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6900 Lugano  
Switzerland

from Carlo Alberto Furia  
tel + 41 58 666 4953  
fax + 41 58 666 4647  
e-mail carlo.alberto.furia@usi.ch  
web bugcounting.net  
date 2021-03-15

## Independent financial examination of FME's financial records: Year 2020 report

For inspection of FME's 2020 financial records about the year 2020, I received the following documentation on 2021-02-21 from FME's Treasurer Nico Plat:

- The cashbook reporting all expenses and income
- A bank statement detailing all transactions of FME's checking account
- A bank document reporting starting (on 2020-01-01) and final (after 2020-12-31) balances of FME's checking and savings accounts
- FME's financial report for the year 2020, comparing the approved budget to the actual incurred expenses
- Guidelines about the role of this financial examination according to FME's by-laws

In my review of these documents, I checked that:

- The transactions listed in the cashbook match those listed in the bank statements (and vice versa) according to their amount, date, and justification
- The overall starting and final balances are consistent with these transactions
- The financial report also lists, under actual incurred expenses, the same amounts as the cashbook, aggregated per category and with notes explaining any discrepancies between approved and actual budget

Based on this review, I found that FME's financial records accurately reflect the administration of the association and its activities. I found no discrepancies, and all financial transactions were transparently and accurately justified. The clarity of the documentation indicates that FME's financial management for the year 2020 has been appropriate and consistent with the association's planned budget.

*Based on the positive outcome of my examination, I recommend FME's members to **accept** the financial report for the year 2020.*

As a minor comment, I note that FME's bank accounts yielded no interests. I agree with the financial report that this is in line with current financial trends. Thus, keeping some money on the savings account (as opposed to keeping all of it on the checking account) does not seem to bring any benefits; but there are no constraints either on the amount of money that can be transferred between checking and savings accounts. In all, the banking costs remain reasonable, so the current setup of the banking accounts appears adequate. However, FME may want to consider other setups in case the bank will offer different banking solutions more suitable for FME's typical operations.

Sincerely,



Carlo A. Furia

Dr John Cooke

Department of Computer Science

Loughborough University Leicestershire LE11 3TU UK

Telephone +44 (0)1509 230205 (home)

E-mail D.J.Cooke@lboro.ac.uk



21st March 2021

### **Examination of FME accounts 2020**

Dear Sir/Madam

At the AGM of Formal Methods Europe (FME) held on 3 April 2019 in London I was appointed as one of the financial examiners charged with scrutinizing the accounts for the financial years 2019 and 2020. Formerly a member of academic staff at Loughborough University, I am now a Visiting Fellow. I am also currently the Treasurer of BCS-FACS (the Formal Aspects of Computing Science specialist group of the British Computer Society), a group which I helped found and of which I have previously been Chairman and Secretary. I have been an 'ordinary' member of FME for several years. It has now become customary for FME and (BCS) FACS to hold joint meetings periodically.

As was the case last year, I see no point in repeating the actual figures from the bank accounts and the cashbook. I have cross checked the various financial documents supplied and all entries tally.

The Caronavirus pandemic has seriously curtailed the scope of FME meetings. Indeed, globally, most conferences and technical meetings have become 'virtual' (online) rather than person to person events. This has had serious consequences for the financing and planning of such events.

At FACS, following the recommendation of the BCS, we have anticipated that expenditure for the next financial year will be based on the outline budget agreed for the previous year. Obviously this will almost certainly be wrong, but it is the best we can do even though it might well require adjustment for inflation if/when we get back to 'normal'. I presume that FME will do something similar. Although the outlook is uncertain, I have no doubt that the officers of the society will act prudently and that the current surpluses will adequately see FME through the next few years; until the world has, hopefully, recovered from the pandemic.

In summary, I am happy to support the treasurers accounts for presentation at the FME 2021 AGM.

Yours faithfully

A handwritten signature in black ink, appearing to read "D J Cooke".

Dr John Cooke

# Report on the activities of the Book Review Committee

Matteo Rossi, Book Review Committee Chair

FME AGM  
May 6<sup>th</sup>, 2021

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# 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

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# Committee

- Simon Bludze (INRIA, 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)
  
- Contacts:
  - email: [bookreview@fmeurope.org](mailto:bookreview@fmeurope.org)
  - webpage: <https://www.fmeurope.org/book-review/>

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- Warm thanks to Peter Gorm Larsen, who stepped down from the committee recently
  - A welcome to Simon Bliudze who joined the committee

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# Reviews

- Last year 3 reviews were published on the FME website
  - <https://fmeurope.org/categories/bookreviews/>
  - some of them have also been published in the Formal Aspects of Computing journal
- A few reviews are in preparation
  - 2-3 are expected before the summer, another couple during the summer

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# Reviewers

- At the end of 2019 we launched a "call for reviewers", which gave nice results
  - a few of the people who responded have been asked to review books
- A new "call for reviewers" is in the works

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# Books

- We have received some suggestions for books to review
  - Thanks to anyone who provided suggestions!
- We are considering the suggested books, however, let us recall the basic features of the books that we are looking for:
  - Books on a single topic
    - edited books, where each chapter is contributed by different authors, are excluded
  - Recent books – books published no earlier than 2015
  - Books suitable for researchers, students, or practitioners (or any combination)
- A "call for book suggestions" is also in the works

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# Meetings

- The BRC meets around every 3 months to discuss the status of reviews and other topics related to the committee
  - Last 2 meetings in December 2020 and April 2021
  - Next meeting in June

Thank you for the attention!

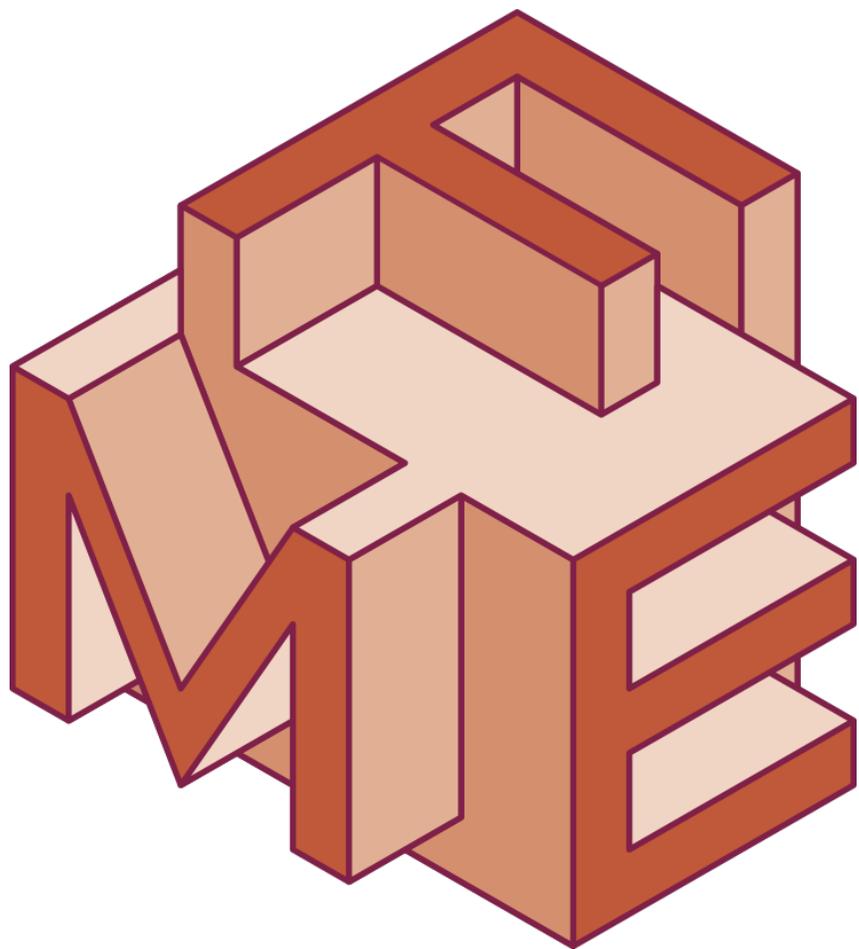
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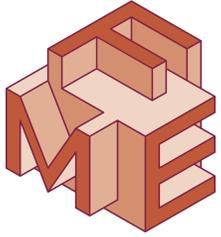




FME Teaching  
Committee  
*status report*

*Luigia Petre*

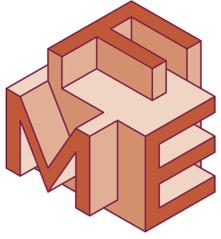
*Åbo Akademi University, Turku, Finland*



# Teaching Committee members



- Brijesh Dongol, University of Surrey, UK
- Catherine Dubois, ENSIIE, France
- João F. Ferreira, IST, University of Lisbon, Portugal
- Rustan Leino, Amazon Web Services, US
- 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
- Graeme Smith, The University of Queensland, Australia
- Kenji Taguchi, CAV, Japan



# Teaching committee tasks



## Events & Meetings

We organise [events](#) and [meetings](#).



## Courses Database

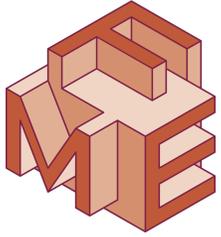
We maintain a database of [FM courses](#).



## Case Studies

We maintain a list of FM case studies.

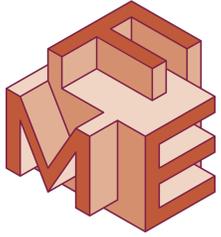
- Setup secured repository of exam exercises for formal method courses
  - Available only to teachers
- Work towards achieving a BoK (Body of Knowledge) in Formal Methods
  - Should enable self-learning as well as various future certifications in Formal Methods
- Setup list of training schools in Formal Methods



# What's exciting?



- FMTea'21
  - Workshop and tutorial at FM'21 → **online** (should have been in Beijing)
  - November 21, 2021
  - <https://fmtea.github.io>
  - **PC chairs**
    - João F. Ferreira, INESC-ID & IST, University of Lisbon, Portugal
    - Alexandra Mendes, INESC TEC & University of Beira Interior, Portugal
    - Claudio Menghi, University of Luxembourg, Luxembourg
  - **Important dates**
    - 2 July 2021 AoE: Deadline for submission of papers
    - 2 August 2021: Notifications to authors
    - 17 September 2021: Deadline for camera-ready version
    - 21 November 2021: FMTea21 Workshop (online)
  - **LNCS** agreed to **publish the proceedings**



# What are we waiting for?



- COST application reply
  - 26 May
  - 11% acceptance rate!
  - 26 proposers from 16 countries, 4 of which are International Partner Countries (IPCs)
    - Australia, Brazil, Canada, US
    - Czech Republic, Cyprus, Denmark, Estonia, Finland, France, Italy, Luxembourg, Norway, Portugal, Romania, UK

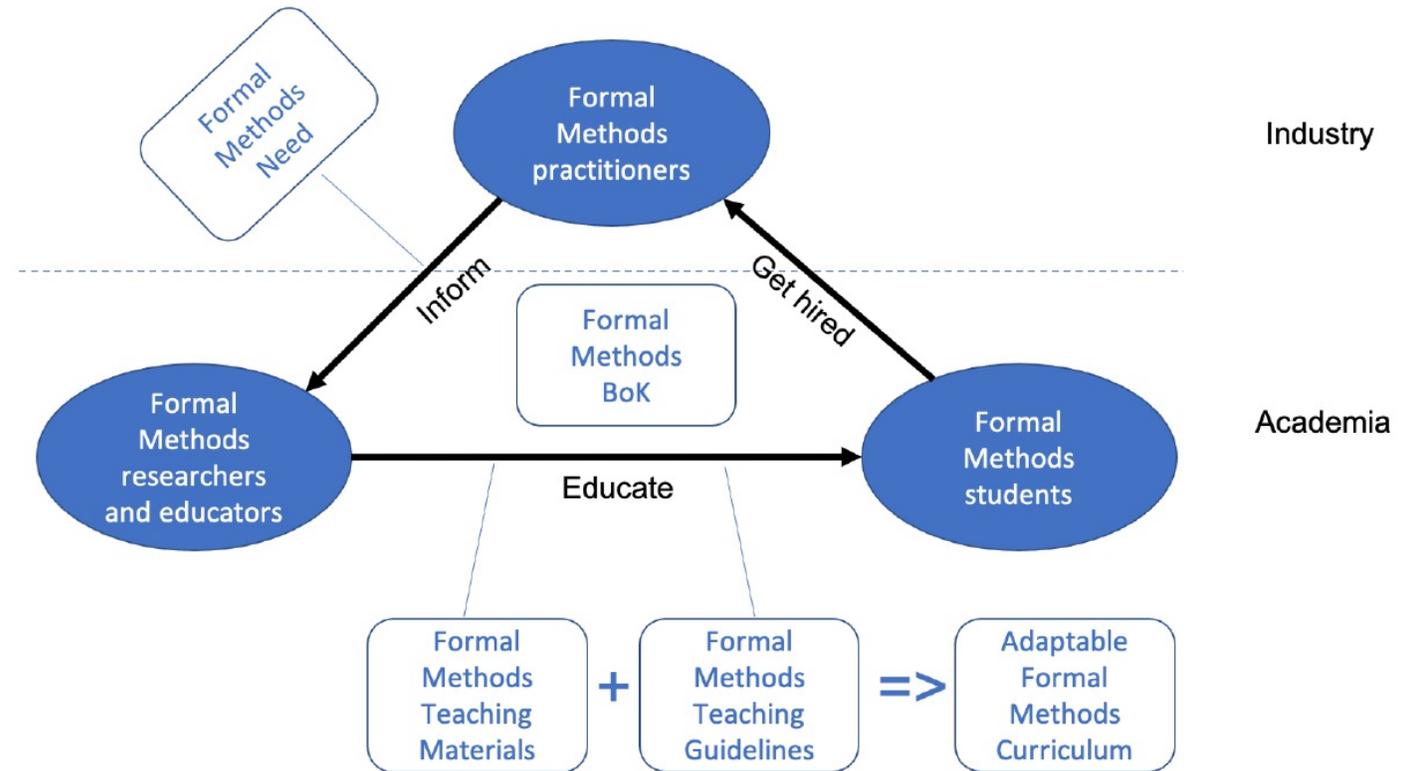
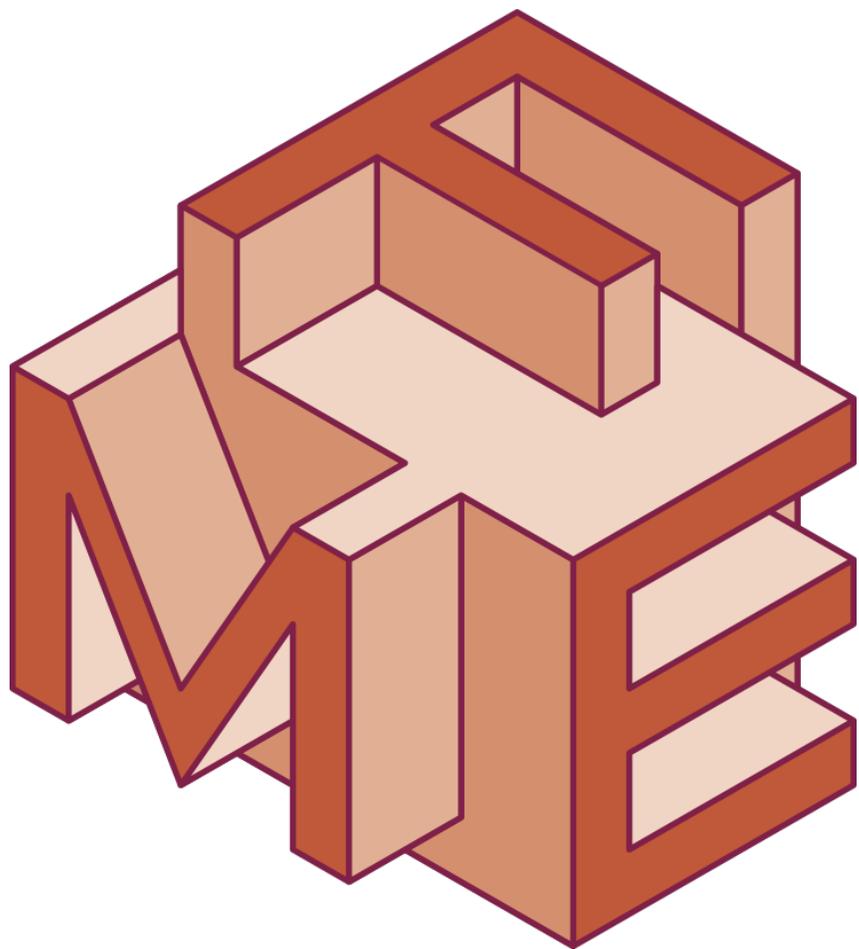


Figure 1: The Formal Methods Circle



FMTea



Keep in touch!

# FME Communications Committee: Report on activities 2020

Einar Broch Johnsen, Univ. of Oslo, Norway

May 6, 2021

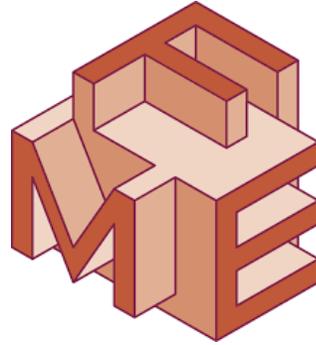
# The Communications Committee

- **Established:** October 2018.
- **Aim:** to support the dissemination of material about formal methods as well as FME activities.
  
- [Marcello Bersani](#),  
Politecnico di Milano, Italy.  
**Role:** Marcello will liaise with the Awards Committee, the Book Review Committee, and the Industry Committee
- [Carlo A. Furia](#),  
Università della Svizzera italiana,  
Switzerland.  
**Role:** Carlo will work on the communications strategy and guidelines for conferences and liaise with board members in charge of conferences.
- [Einar Broch Johnsen](#),  
University of Oslo, Norway  
**Role:** Einar chairs the Communications Committee, maintains the FME website, Twitter account, and LinkedIn group. He will work on an overall policy document on communications.
- [Claudio Menghi](#),  
University of Luxembourg  
**Role:** Claudio will liaise with the Teaching Committee. Claudio has also developed a questionnaire to collect feedback from FM conferences.
- [Pedro Ribeiro](#),  
University of York, UK.  
**Role:** Pedro is in charge of communications for FME business meetings. Pedro is also in charge of FME's videos and YouTube channel.

# Activities in 2020

- **Standard activities:** liaise with the other committees of FME
- **Video recordings** of keynotes at FormaliSE 2020.
- **Publicity plans and social media** for FormaliSE 2020 and FM 2021
- **cavlinks.org:** a site for and by young researchers in FM
- **FM promo-video**
- **Web pages** for the Industry Committee
- **Communication strategy.** Document in progress
- **FME website:** maintenance and migration
- **Questionnaire on FME sponsorship:** in progress
- **«FM in industry» video:** collab. with Industry Committee, in progress





# FME Industry Report

May 7, 2021

Klaus Havelund

<https://fme-industry.github.io>

# Committee members

- [Nikolaj Bjorner](#), Microsoft Research, USA
- [Jonathan Bowen](#), London South Bank University, UK
- [Alessandro Cimatti](#), FBK Trento, Italy
- [Rance Cleaveland](#), Maryland University, USA
- [Jan Friso Groote](#), Eindhoven University, The Netherlands
- [John Hatcliff](#), Kansas State University, USA
- [Klaus Havelund](#), Jet Propulsion Laboratory/NASA, USA
- [Connie Heitmeyer](#), Naval Research Laboratory, USA
- [Gerwin Klein](#), University of NewSouth Wales, Australia
- [Thierry Lecompte](#), ClearSy, France
- [Colin O'Halloran](#), D-RisQ Ltd., UK
- [Jan Peleska](#), Bremen University, Germany
- [Shaz Qadeer](#), Facebook, USA
- [Cristina Seceleanu](#), Malardalen University, Sweden
- [Markus Völter](#), Völter Ingenieurbüro, Germany

**Connie Heitmeyer** - Naval Research Lab., USA  
- asked to become member  
- she has been added

# Committee meeting December 2, 2020

- Objectives agreed on

1. Increase use of formal methods in industry.
2. Increase awareness in industry of formal methods. This includes informing the industry about which formal methods are available, which companies use formal methods, which companies offer formal methods and consultancy, industrial success stories of formal methods, and other relevant material such as links to papers concerned with the above aspects. It also includes announcement of industrially oriented events.
3. Increase awareness in the formal methods community of industrial use of formal methods. This forms a feedback on what works and what does not work in practice, and can help steer the formal methods community towards successful approaches.
4. Increase research collaboration between academia and industry.

- Agreement to produce video with interviews of industry people

# Video with interviews of people with industrial ties



## **Organizers**

- Klaus Havelund
- Einar Broch Johnsen (idea proposer)
- Claudio Menghi (communications committee, the man in the trenches)
- Pedro Ribeiro (communications committee)

Claudio and Pedro made a video from FME 2019 in which various keynote speakers were interviewed about their views on the future of formal methods.

We copy the idea.

# People asked who accepted



- Nikolaj Bjoerner, Microsoft Research, USA
- Bert De Jonge, Verum, Netherlands
- Thierry Lecompte, ClearSy, France
- Cesar Munoz, NASA Langley, USA
- Colin O'Halloran, D-RisQ, UK
- Grigore Rosu, RuntimeVerification / U. of Illinois, USA

Two more will be invited.

We asked seven others who did not answer (four), or declined (three).

We have received two contributions (videos) so far.

# Questions asked



1. Who are you and where are you working? [30 sec]
2. What FM techniques are used and for what purposes? [90 sec]
3. Do you experience difficulties in acquiring staff to apply formal methods? [30 sec]
4. What is your overall experience with the use of formal methods? [30 sec]

Allowing them to use more time if needed.

# FME Open Access Journal in Formal Methods

## Interim committee

Maurice ter Beek, Institute of Information Science and Technologies (ISTI), CNR, IT

Klaus Havelund, Jet Propulsion Laboratory, NASA Formal Methods, US

Marieke Huisman, University of Twente, NL

Einar Broch Johnsen, University of Oslo, NO (chair)

Nico Plat, Thanos, NL

## Summary

There is now an opportunity for FME to make a major contribution to the formal methods community by initialising a **community-driven open access journal**. The timing for such an initiative seems ideal. This document summarises the current situation for community-driven open access journals in formal methods and the reasons why **we believe FME should consider to take this initiative**.

## Background

Open access (OA) is a set of principles and a range of practices through which research outputs are distributed online, free of cost or other access barriers. An obvious advantage of open access journals is the **free access to scientific papers regardless of affiliation with a subscribing library and improved access for the general public; this is especially true in developing countries**. The open access movement is motivated by the problems of social inequality caused by restricting access to academic research, which favor large and wealthy institutions with the financial means to purchase access to many journals, as well as the economic challenges and perceived unsustainability of academic publishing [from Wikipedia].

There are several categories of OA journals:

- **Gold OA.** The publisher makes all articles and related content available for free immediately on the journal's website. Articles are licensed for sharing and reuse via creative commons licenses or similar. The minority of gold open access journals which charge article processing charges (APCs) are said to follow an "author-pays" model, although this is not an intrinsic property of gold OA.
- **Green OA.** Self-archiving by authors is permitted under green OA independently from publication by a publisher. Green OA is gratis for the author. If the author posts the near-final version of their work after peer review by a journal, the archived version is called a "postprint". This can be the accepted manuscript as returned by the journal to the author after successful peer review.

- **Hybrid OA.** Hybrid open-access journals contain a mixture of open access articles and closed access articles. A publisher following this model is partially funded by subscriptions, and only provides open access for those individual articles for which the authors (or research sponsor) pay a publication fee.

## Motivation

Open access is a timely topic for several reasons. Some pragmatic ones are:

- Anyone in EU (as well as Norway and Switzerland) must conform to [Plan-S](#) from Jan 1, 2021 onwards; *Plan-S: scientific publications that result from research funded by public grants must be published in Open Access journals or platforms.*
- Hybrid and Green OA will be allowed by Plan-S only until 2024;
- Access to scientific literature is today restricted in developing countries;
- Even in Europe, universities and research institutions are cutting in their spending on access to the literature;
- The EU has officially launched [Open Research Europe](#), the OA publishing platform for scientific articles that present the results of research funded by Horizon 2020, and soon Horizon Europe, on 24 March 2021.

Research assessment agencies might conform to Plan-S; until now hybrid and green OA were accepted but what about after 2024? The risk is that after 2024 entire communities may not be sufficiently represented by OA journals.

**This risk applies to the formal methods community, because the established journals in formal methods are either behind paywalls or only offer green OA today.**

There is also an idealistic perspective to OA publications, which is related to the business model of academic publishers, how they rely on free peer reviewing services and charge the academic community for the result of these services.

## Is there a “market” for an OA journal in FM?

While there are many paywalled or Green OA journals that publish FM papers, open access journals are scarce. We have identified the following

- [Logical Methods in Computer Science](#). This is a journal in theoretical computer science which includes topics such as “computer-aided verification”, “logics of programs” and “program development and specification” among its topics.
- [Journal of Object Technology](#). This is a journal in software engineering which includes “software validation & verification” among its topics.
- [Fundamenta Informaticae](#). This is a journal in theoretical computer science which includes topics such as “computer-aided verification” and “automated deduction” among its topics. It has become OA in 2021; the first OA article has yet to appear.
- Hybrid models in most FM journals, including [Formal Aspects of Computing Journal](#) (FOAC), [Formal Methods in System Design](#) (FMSD), [Science of Computer Programming](#)

(SCP), etc. These journals offer OA using a hybrid model. For example, FMSD requires authors of OA published papers to pay article processing charges (APCs) of €2590 while FOAC charges €2190 and SCP \$2000.

*LMCS is better ranked in both Scimago (Scopus) and JCR (Web of Science) than FAOC, FMSD and SCP.*

## Profile of the journal

The scope for the journal should be centered around formal methods. Here is the list of relevant topics from FM 2021, which could be taken as a starting point to define the journal's scope:

- Interdisciplinary formal methods: Techniques, tools and experiences demonstrating the use of formal methods in interdisciplinary settings.
- Formal methods in practice: Industrial applications of formal methods, experience with formal methods in industry, tool usage reports, experiments with challenge problems. Authors are encouraged to explain how formal methods overcame problems, led to improved designs, or provided new insights.
- Tools for formal methods: Advances in automated verification, model checking, and testing with formal methods, tools integration, environments for formal methods, and experimental validation of tools. Authors are encouraged to demonstrate empirically that the new tool or environment advances the state of the art.
- Formal methods in software and systems engineering: Development processes with formal methods, usage guidelines for formal methods, and method integration. Authors are encouraged to evaluate process innovations with respect to qualitative or quantitative improvements. Empirical studies and evaluations are also solicited.
- Theoretical foundations of formal methods: All aspects of theory related to specification, verification, refinement, and static and dynamic analysis. Authors are encouraged to explain how their results contribute to the solution of practical problems with formal methods or tools.

## Options and costs for the technical platform

Stefan Millus, editor, LMCS: "We use [episciences.org](https://episciences.org). It's free to use for OA journals and is run by CNRS and the university of Grenoble (i.e. paid for by the French state). The platform isn't super great, but you can survive. They have a support team and a developer, are friendly and willing to help and develop new features should a journal need them (this can take some time, though)." The basic idea of overlay journals is to provide a peer reviewed interface to an open repository such as arXiv. [Fundamenta Informaticae](https://www.fundamenta-informaticae.org) adopted the same platform when they went OA in 2021.

Stefan Millus: "LMCS is essentially based on volunteer work. We have no yearly income and live on a couple of donations we received a number of years ago. Yearly costs are very low: 50 EUR for a domain + about 250 EUR for a membership in [CrossRef.org](https://crossref.org), which used to be our DOI registrar before we moved to [Episciences.org](https://episciences.org)." Thus, the annual costs for LMCS are today at EUR 50 per year for the domain.

[EPTCS](https://www.episciences.org) is run according to similar principles, but on their own platform and they pay for proofreading.

In the Netherlands, Bettina Speckmann and Peter Boncz are setting up a server running Open Journal Systems at CWI. This is still in progress, but it might be a good hosting option for FME.

## Effort

Stefan Millus: “Setting up a good journal is a bit non-trivial as I now experience with that new TCS journal. Once the journal is up and running, it's not so bad. Maybe 1-2 hours per week on average. But you need to distribute the work on several shoulders. Besides me as EiC, we have two managing editors for special issues and 4 layout editors doing copy editing (each of them having to do one paper every two weeks on average). The LMCS editors have a lot of freedom but are required to take a share of the responsibility.”

## Recommendation to FME

We recommend that FME takes an initiative to establish and run a community-driven OA journal in formal methods. We believe the time is right for such a journal now. The numbers above show that this is a completely feasible undertaking for FME from the financial perspective, with a potential major contribution to the formal methods community. Rob van Glabbeek (EPTCS) opened an EPTCS bank account in The Netherlands for donations, among which regular payments from ETAPS. EPTCS is an unincorporated association, but as managing director Rob is personally liable for all debts of EPTCS. Both Stefan Millus (LMCS) and Alfonso Pierantonio (JOT) emphasize the need for an entity like an association that is legally entitled to receive donations to be the legal representative of the journal. FME is ideally suited for this role.

We ask FME to approve this recommendation and act on this opportunity, and to allocate a budget to start to establish the journal in 2021.

If FME approves this recommendation, the next step would be to elaborate on the details of how to run the journal, for further approval of FME. In that case, we suggest to enlarge this document in a second step with concrete ideas about the journal, including possible names for the journal, how to establish and run it organisationally, legal aspects of ownership by FME, possible size and diversity of its editorial board, possible different kinds of papers and special issues, etc. This would then be the subject of another recommendation for discussion by the board of FME.