

**LogICCC - Modelling intelligent interaction
Logic in the humanities, social and
computational sciences**

Consensus statement LogICCC Review Panel

(Final Evaluation)

The LogICCC Review Panel rates the LogICCC programme “excellent” in all relevant respects.

What follows, is an elaboration of this conclusion, reflecting careful considerations on the part of the Review Panel. What stood out in these reflections is the high degree of consensus among the Panel members on the overall success of the programme.

In particular, the Panel wishes to stress the brilliant research output of the Collaborative Research Projects (CRPs) in terms of publications. The Panel is impressed by both the quantity and quality of publications that appeared in the proceedings of the very best conferences (like IJCAI, LiCS, AAI, TCS, AiML) and in prestigious journals (Synthese, Journal of Philosophical Logic, etc.). This attests to the excellence of both the participants and the work they have achieved within the programme.

Progress in the Collaborative Research Projects (CRPs)

Progress towards CRP goals

The Review Panel notes that all CRPs have made true advance, reaching to a large extent the goals that were stated in the original proposals – in some cases even exceeding these - as well as progressing towards emerging or additional topics. There were, of course, some adjustments necessary in some projects but this is quite natural in basic research projects.

The original LogICCC Call for Proposal encouraged the CRPs to be 1) interdisciplinary, 2) to contribute to broader insight and theory-building and 3) to make innovative use of logic in fields of applications. All CRPs have shown evidence of meeting most of these requirements – and many CRPs have incorporated all of them. In this respect, the programme has played a positive role in various domains where logical formalization has shown its added value.

Collaboration within CRP teams

Most of the CRPs showed a high degree of internal collaboration, resulting in a large number of joint publications and this collaboration has intensified since the mid-term review. As already indicated in the mid-term review, the CRPs with a very strong interdisciplinary component had initially more problems in setting up a fruitful collaboration and even though this situation has improved, this still shines through in the final reports of these CRPs.

The Panel in particular notes the active involvement of the Associated Partners, quite a number of which have succeeded to obtain funding outside the LogICCC programme to join a CRP, while other APs found the collaboration within LogICCC important enough to proceed with even without such funding. These APs have made important contributions towards the overall success of the LogICCC CRPs.

Scientific Highlights

The scientific achievements of the CRPs were top level. The highlights mentioned in the reports show that all CRPs work at the cutting edge of their respective areas. They have contributed significantly to the understanding of the scientific problems in these areas, have solved a high number of open problems and have also found new important problems to investigate in the future. Some of the Principal Investigators have indeed already succeeded to obtain (national) funding for follow-up projects.

As stressed earlier, the output of the CRPs in terms of publications is impressive.

Programme integration

Integration within the programme and interaction among the CRPs

The Review Panel concludes that all CRPs were well-integrated in the overall theme of LogICCC. Most CRPs had fruitful and stimulating interactions with other CRPs, to some extent even more passionate than could have been expected from the number of involved researchers and the variety of topics that they worked on.

The interaction was mainly structured through joint organization and participation in LogICCC events, of which there were many. The activities seemed to revolve around two centers, one emphasizing dynamic situations and potential applications in Humanities and Social Sciences whereas the other (with a focus on uncertainty logics) concentrated on static situations and engaged with more traditional logical activities. Each of the two nuclei attracted a variety of CRPs and each of them led to a very successful integration.

Added value of the programme

In their reports, all CRPs were extremely positive about the added value of the programme. The Review Panel echoes these words and concludes that, indeed, all CRPs have clearly benefitted from their participation in the LogICCC programme. Firstly, since funding for this kind of interdisciplinary projects is very hard to obtain from other sources, but secondly also because the interaction with the other CRPs has broadened the scope of the individual CRPs. Although it may not

show in the number of inter-CRP publications, it is evident that the contacts among the CRPs have greatly enhanced the understanding of the programme members of the overall field and thus have influenced their individual publications.

Though the direct benefit is difficult to estimate, it seems safe to say that many activities and research collaborations would not have materialized without the motivation induced by the LogICCC Call.

Finally, the Panel points out that also the cross-CRP training, networking and dissemination activities – more on which to follow in the next paragraph – should be considered an important added value of the programme. Their embedding in the programme enabled the CRPs to take part in these activities, both the intensity and impact of which was first-class.

Networking, training and dissemination

The networking, training and dissemination activities within the programme have been one of the main strengths of LogICCC, making the LogICCC programme exemplary for cross-disciplinary studies.

Ranging from small, dedicated workshops, to large, programme-scale conferences, the participants have taken the opportunity to turn what in many cases is a more or less „routine exercise“ into a real instrument for expanding the boundaries of their own research environment.

The Review Panel is impressed about the sheer number of activities and amount of involved personnel, specifically early career researchers. More particularly, the Panel wishes to single out the following.

- The **training** of a significant number of PhDs. A good number of doctoral students were able to work on their PhDs through the programme. In this respect, the valuable training possibilities should be mentioned that were organized within the programme, both at participating sites (such as at the annual European Summer Schools for Logic, Language and Information) but also further afield (most notably, the Sino-European Winter School in Logic, Language and Computation, in Guangzhou, China). From these activities not only LogICCC members profited but also a large number of students and postdocs from outside the programme who, through these courses, became familiarized with the work of the CRPs.
- The dissemination of the LogICCC results to the wider scientific community has been splendid and the outreach in terms of the number of presentations and (invited) lectures is very strong. All CRPs participated in a wide range of large-scale, high-profile activities which greatly enhanced the **visibility** of LogICCC in the international scientific community. The Panel is particularly pleased to see that many early career LogICCC members took advantage of the programme to present their work at these international events.
- The LogICCC programme has established a vibrant network in logic that, throughout the running time of the programme, has been extended both geographically and to other research fields. Of particular importance may be the seeds that have been sown for connections with important, emerging research communities **beyond Europe**, such as with the Chinese and Indian logic communities.

Evaluation of the realization of the programme's potential

The panel concludes from the above that the investigators have made very good use of the opportunities provided by the LogICCC programme: networking, training, outreach, cross-disciplinary collaboration, pooling of various types of expertise and integration of different methodologies make this an excellent example of what a EUROCORES programme can achieve.

Summary of main conclusions

The Panel concludes that the LogICCC programme has been very successful. The LogICCC primary ambitions have been exceeded, on all fronts: it solidified the European lead position in logic if compared to the US, it advanced the input to logic from areas outside of the traditional ones as well as the application of logical methods in these areas, and it facilitated the emergence of a logic community that will transcend the classical boundaries of disciplines, backgrounds, and schools.

The main strengths of the LogICCC programme have been two-fold:

- the cross-disciplinary cooperation & European integration it has fostered.
- the contribution it has made to the creation of a new generation of young researchers that has a much more multi-disciplinary profile.

It also seems highly likely that the large amount of important publications – as well as the exchanges and collaborations started under the programme - will have a meaningful future impact on this interdisciplinary field.

Overall, the LogICCC programme serves as a valuable model for any networking scheme that seeks to foster links between disciplines where the advancement of knowledge depends upon such engagement and where scientific quality is the main criterion for success. In this light, and against a political background in which the future of the EUROCORES Scheme is uncertain, the Panel wishes to stress the importance of this kind of funding scheme.