

## **Co-Authorship Form**

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This form is to accompany the submission of any PhD that contains published or unpublished co-authored work. Please include one copy of this form for each co-authored work. Completed forms should be included in all copies of your thesis submitted for examination and library deposit (including digital deposit), following your thesis Acknowledgements. Co-authored works may be included in a thesis if the candidate has written all or the majority of the text and had their contribution confirmed by all co-authors as not less than 65%.

Please indicate the chapter/section/pages of this thesis that are extracted from a co-authored work and give the title and publication details or details of submission of the co-authored work.

Cooper, J. and Nicolescu, R. (2021) 'Neighbourhood Message Passing Computation on a Lattice with cP Systems', Journal of Membrane Computing (in submission).

This paper comprises the majority of chapter 7 "Neighbourhood Message Passing". Parts of it were also incorporated into chapter 3 "cP Systems".

Nature of contribution by PhD candidate	Wrote paper. Prepared figures. Performed most of the experimental programming. Devised the rulesets.
Extent of contribution by PhD candidate (%)	80

## **CO-AUTHORS**

Name	Nature of Contribution	
Radu Nicolescu	Provided editorial support. Performed some of the experimental programming.	

## **Certification by Co-Authors**

The undersigned hereby certify that:

- the above statement correctly reflects the nature and extent of the PhD candidate's contribution to this work, and the nature of the contribution of each of the co-authors; and
- that the candidate wrote all or the majority of the text.

Name	Signature	Date
Radu Nicolescu	Rnicolom	17/09/2021