

Co-Authorship Form

This form is to accompany the submission of any PhD that contains published or unpublished co-authored work.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: Part One', Journal of Membrane Computing (in submission).

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

This journal article is partially based on a previous conference paper, proposing a novel high-level abstraction of the underlying communication principles: Cooper, J. and Nicolescu, R. (2020) 'Belief Propagation for Stereo Matching in cP systems', in Freund, R. and Ishdorj, T.-O. (eds) Pre-proceedings of the International Conference on Membrane Computing 2020. Vienna, Austria: TU Wien, pp. 1-28.

Nature of contribution
by PhD candidate

Wrote paper. Prepared figures. Performed most of the experiment programming. Devised the rulesets.

Extent of contribution
by PhD candidate (%)

80


CO-AUTHORS

| Name | Nature of Contribution |
|----------------|--|
| Radu Nicolescu | Provided editorial support. Contributed to the experiment programming. |
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| | |

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 |  | 28/09/2021 |
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